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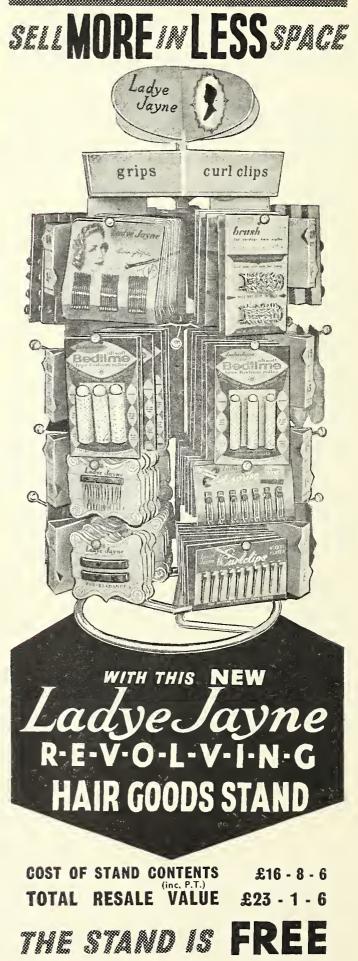
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Volume 176

OCTOBER 14, 1961

No. 4261

Export Markets

I.C.I. CHAIRMAN'S COMMENTS

ADDRESSING a conference of the Institute of Personnel Management in Edinburgh on October 6, Mr. S. P. Chambers (chairman, Imperial Chemical Industries, Ltd.), said that certain actions were essential if the United Kingdom was to achieve a sound basis for her export trade.

It was essential to reduce the dependence of exports on the ster-ling area countries and other primary producing countries which made up the slowest growing section of the world's markets. Britain should put herself in a position to meet competitors on level terms in the fastest growing markets.

Discussing the U.K. pharmaceuticals industry, Mr. Chambers said the attacks by the Ministry of Health on the industry were designed to draw attention away from the inefficient and costly administration of many of our hospitals under the National Health Service, and they were doing irreparable damage to the industry. "Weighing the ultimate saving against an immediate cost must always be present in any private enterprise, but it is, I fear, still absent from an administration which is notoriously penny wise and pound foolish.'

Undiagnosed Diabetes

BIRMINGHAM SURVEY REPORT

THE findings of a working party of the College of General Practitioners published on October 1, showed that thirteen out of every 2,000 patients on the average doctor's Health Service list have undiagnosed diabetes. Of those thirteen, six had the disease in a form sufficiently severe to warrant immediate treatment. The working party reported to the British Diabetic Association (which with the Nuffield Foundation helped to finance the project) that they estimated 0.67 per cent, of the population to be undiagnosed diabetics—the equivalent of 335,000 people. The investigation was carried out by ten Birmingham doctors with the co-operation of more than 18,000 patients who performed for themselves a simple enzyme paper test.

German Chemicals

EXPORTS UP 8.6 PER CENT.

WEST German chemical exports to overseas countries rose 8-6 per cent, to DM1,160 millions mainly due to higher sales to South America, which rose by 29 per cent, to DM220 millions, while those to other American countries rose

5 per cent. to DM248 millions. Sales to European Common Market countries rose by 8.7 per cent. and amounted to 26.2 per cent. of the total, while those to E.F.T.A. countries improved by only 2.3 per cent. Sales to Britain fell by 5 per cent. to DM155 millions. West Germany's chemical imports in the first half of this year, at DM1,320 millions, were only slightly higher than in the corresponding 1960 period. Exports of pharmaceuticals in the first half of 1961 rose by 17 per cent. to DM328 millions.

Assistant's Certificate

PROPOSAL CONDEMNED BY UNION

COMMENTING in its bi-monthly bulletin R.P.U. News and Views on the "Report on the General Practice of Pharmacy" at the British Pharmaceutical Conference (C. & D., October 7, p. 397), the Registered Pharmacist Union note "with concern" that proposals for an "Assistant's Certificate" were again put forward. They state "We are still of the opinion that the only proper course to adopt is a complete reorganisation of the Society's

syllabus for the Ph.C. Diploma, so that its first section provides the 'semiskilled technician' who, by subsequent study and examination, eventually attains 'fully-qualified status.' We firmly believe that only this technique will safeguard us from the danger of dilution of pharmaceutical qualifications by a horde of 'State Registered dispensing assistants' holding certificates issued by The Society of Apothecaries, the technical institutes, 'Old Uncle Tom Cobley and all'." If, on some future occasion, the Ministry of Health were again to be faced with the threat of withdrawal from the N.H.S. by pharmacists and there was by that time a State Register of semi-skilled dispensers, it was feasible that the Ministry might grant them the contract, "which they would doubtless avidly accept."

New London Wharf

FIRST BUILT SINCE 1939-45 WAR

LONDON'S first wharf to be built since the 1939-45 war was opened for Smith's Wharf & Warehouses, Ltd., by the lord mayor of London (Sir Bernard Walcy-Cohen) on October 9. An interesting feature of the new wharf, which is illustrated below, is the retractable gantry crane on the roof. When in action the crane will lift goods out of barges moored on the east side of Queenhithe Dock 30 ft. away from the wharf. Smith's Wharf & Warehouses, Ltd., handle a wide variety of goods at their Queenhithe Wharf and adjacent warehouses; the main commodities include essential oils, drugs and chemicals. The company were the subject of a special article in The Chemist and Druggist, June 28, 1952, p. 896.



The Lord Mayor of London (Sir Bernard Waley-Cohen) pressing the starter of a gantry crane at the new wharf (right) of Smith's Wharf & Warehouses, Ltd., in the City of London, Large quantities of essential oils (among other goods) pass through the company's wharf and warehouses each year.

IRISH BREVITIES

THE REPUBLIC

THE annual dinner-dance of the Council of the Association of Ophthalmic Opticians of Ircland is to be held in the Shelbourne hotel, Dublin, on October 31. The sherry reception will be at 7 p.m.

THE NORTH

THE president of the Pharmaceutical Society of Northern Ireland will be "At Home" to members and associates at 73 University Street, Belfast 7, on October 17. A talk entitled, "Professional Responsibility," will be given at 8 p.m. by Mr. W. R. Roberts (chief inspector, Pharmaceutical Society of Great Britain).

OVERSEAS NEWS

INDIA AND CEYLON

New Support for Ayurveda

INAUGURATING the thirteenth conference of the Integrated Medical Association in Mysore recently, Dr. K. K. Hegde (Minister of Health, Mysore) stated that everything would be done for the development of indigenous systems of medicine (both ayurvedic and unani) equally with the modern systems. The Minister said that, to develop ayurveda, several schemes were in process of being implemented by the State. There was a proposal to start a post-graduate training centre at the Sri Jaya-chamarajendra Institute of Indian Medicine, Bangalore, and to reconstitute the research board originally set up at the close of the second five-year The deputy director of Medical and Health Services of Uttar Pradesh (Mr. Daivedi) suggested creating a forum similar to the Asian Society of Ayurveda. He was presiding over the second session of the Central Council of Indian Medicine. "It would be fitting," he said, "for our Government and Indian ayurvedic organisations to take the initiative."

In Ceylon, one hundred ayurvedic dispensarics administered by village communities are expected to get, during the new financial year, financial assistance from the Department of Ayurveda.

SOUTH AFRICA

Controlling Insecticide Toxicity

"Dangerous insecticides are definitely on the way out," said the head of the entomology section of the Cape Western Province Fruit Research Institute, speaking recently on the toxicity of a newly developed material for fruit-fly control. He said that not a single insecticide could be registered and sold for use on fruit until the Institute was sure of the facts relevant to human safety. Each newly synthesised insecticide was subjected to exhaustive pharmacological testing before being taken into orchards for practical-scale experiments, the preliminary tests being carried out on small animals to determine mammalian toxicity. Thereafter paid volunteers were subjected to sublethal doses until symptoms of toxicity appeared, whereupon the doses were discontinued, their bodies detoxifying the chemicals. "The often-raised question

of cumulative effects," he said, "was not nearly so serious in the new organic insecticides as it was in the now out-dated arsenical poisons."

UNITED STATES

Opposition to "Drug Promotion"

AMERICAN pharmacists have been called upon by Mr. J. Warren Lansdowne (president of the American Pharmaceutical Association) to intensify their efforts to combat the promotion and advertising of prescription drugs to the public. He urged every pharmacist to give immediate attention to the serious public health consequences that result from commercial practices that had the purpose of stimulating sales. "If the best interest of the patient and his community are to be served," he said, "prescription drug use should be

sane, sensible, and professionally supervised—not pushed through public pro-That is the basis for Federal motion. and State laws prohibiting sales of those drugs to the public." The American Pharmaceutical Association has been investigating the problem, working with State pharmacy boards and State associations in the development of appropriate programmes to implement existing state laws. The Association's professional relations committee is reviewing the ethical aspects of the matter. Members of Congress who have expressed concern about the hazards to public health involved, are being briefed by the Association's staff. The promotion and advertising of any drug to the public which the public cannot freely purchase is, they state, "false and misleading advertising at its worst."

REPORTS ON CONSUMER TESTS

A slimming food and resale price maintenance

TWO reports of pharmaceutical interest in the October issue of Which? (the journal of the Consumers' Association, Ltd.) concern Limmits and the question of resale price maintenance.

Analysis of Limmits food slimmers revealed that, on the basis of comparison with the daily nutritional requirements recommended by the British Medical Association's nutrition committee in 1950, there was a deficiency of methionine and phenylalanine. Over a period of time, the Association suggests, the lack of methionine would be important, particularly for young people. The biscuits were also found deficient in iodine. Although the makers stated that Limmits contained no appetite supressant drugs, Which? points out that they do contain 3 per cent. by weight of methyl cellulose (which swells in the alimentary canal and so gives a feeling of fullness).

The report concludes that "if Limmits and milk are the only food taken instead of meals, they will result in a loss of weight, but that as soon as one goes back to a normal diet, weight will again be put on." The Association quotes from the Journal of the American Medical Association a remark that "many users of formula diets thus are doomed to the on-again, off-again, upagain, down-again paradox of self-treatment" and reiterates that "the only long-term solution to problems of overweight is to reform one's eating habits permanently."

The Which? article also points out that, compared with Complan, which was considered "best value for money" in a previous (June 1961) report on slimming foods, Limmits were "nearly twice as expensive."

In the same issue of Which? the Consumers' Association reports on an investigation by the Association into what consumers were thinking about resale price maintenance. The opinion was sought both of Association members and the general public. The Association's members (16,000 circulated, one-third of whom replied) were asked in a questionnaire whether they thought standard prices should be free,

i.e. just a guide to shopkeepers (70 per cent. of replies), or fixed, i.e. observed by all shopkeepers (29 per cent. of replies), and in what circumstances they thought the shopkeepers should be allowed to sell below standard price. Further questions asked members attitude to the price (fixed, recommended, or free) of twenty-one different products. With one (newspapers), a majority preferred a fixed price, enforceable at law. Replies to questions on shopping habits showed that people under forty-five years of age tended to look out for cut prices more than older ones.

Views on Enforcement of Prices

Which? also sought members' opinions about manufacturers' enforcement of resale price maintenance; they disapproved of manufacturers' enforcing fixed prices by withholding supplies or by seeking legal action.

To find out what the general public's attitude was to resalc price maintenance, and to compare it with the views of members, the Association interviewed "a sample representative of the population." The same questions as those in the questionnaire were asked.

From the results of the inquiries *Which?* arrives at the following conclusions:

(a) Most people think that a branded product should have a marked and advertised standard price.

(b) A majority think that the shopkeeper should be free to eharge a different price if he wants to; that majority is bigger among Association members than it is among the general public.

(e) A majority (smaller among the public than among Association members) is against resale price maintenance for produets bought regularly or fairly frequently; a majority of Consumers' Association members are also against resale price maintenance on durables, but among the general public a small majority of those with definite opinions are in favour of price maintenance on that type of product.

(d) Most people disapprove of a manufacturer's enforcing fixed prices either by withholding supplies or by taking legal action,

(e) There was greater opposition to retail price maintenance among younger than older people.

(f) A majority of Association members who are wholesalers and retailers are in favour of fixed prices and methods that can be used by a manufacturer to enforce them.

NEWS IN BRIEF

MR. Edgar Anstey has been elected president of the International Scientific Film Association.

INSTRUCTION in hypodermic injections will in future form part of the syllabus of the Merchant Navy's first-aid course for officers.

THE World Health Organisation expert committee on biological standardisation has issued its fourteenth report (Wld. Hlth. Org. techn. Rep. Ser., 1961. No. 222, W.H.O., Geneva, price 3s, 6d.).

THE first licence for Sabin type II oral poliomyelitis vaccine has been granted by the United States Government to Pfizer. Ltd., Sandwich, Kent. 1.8 million doses have been ordered for stockpiling by the U.S. Public Health Service.

A COLLECTION at the annual dinner of the Hull Chemists' Association held in Hull on September 28 raised £30 for the Association's benevolent fund. Miss C. Johnson, the best pharmaceutical student at the Hull Technical College during the past academic year was presented with a book.

REPRINT of a report on the bacteriological examination of water supplies has been issued jointly by the Ministry of Health and the Ministry of Housing and Local Government (Reports on Public Health and Medical Subjects, No. 71, 3rd impression) (H.M. Stationery Office, price 3s. 6d.).

As a result of Government changes announced on October 9, Mr. F. J. Erroll succeeds Mr. R. Maudling as President of the Board of Trade. The combined post of Chief Secretary to the Treasury and Paymaster-General has been taken by Mr. H. Brooke, formerly Minister of Housing and Local Government.

OPENING the Conservative local government conference at Brighton on October 10, the Minister of Health (Mr. E. Powell) said that the Government intended to invite local authorities to define their needs for the next decade in health and welfare services. Development of those services would be a necessary complement to the hospital service expansion scheme.

SKELMERSDALE, between Wigan and Ormskirk, Lancs, is to be the site of a New Town, the first to be designated in England and Wales for eleven years. Its primary purpose will be to house people from Merseyside, and the target population is 80,000. The Minister of Housing and Local Government has confirmed an order designating 4,029 acres for the project.

SPORT

Golf.—MANCHESTER PHARMACEUTICAL GOLFING SOZIETY at Didsbury golf club on October 4. Prize distribution. Winners: Members' Prize, 1, R. H. Evans and R. Fairclough; 2, S. Rigby, and J. Roylance (after a tie), Ucal Prize, 1, A. Priestley; 2, Dr. A. Whitewright. Griffiths Hughes Prize, 1, W. Eastwood; 2, T. Williams, Kerfoots Prize, 1, J. Bolsom; 2, Dr. Doohan, Hough Hoseason Prize, 1, J. Kemp; 2, Dr. Frazer. Robinsons Prize, 1, Dr. McGregor and Dr. Gourley; 2. Dr. Whitewright and S. Pasquill, Woolley Prize, 1, T. Moffatt; 2, Dr. Frazer. Captain's Prize, 1, E. Gibbs; 2, H. Oldham, I.C.P. Prize, 1, J. Roylance; 2, H. Hutchinson. President's Prize, 1, B. Chadderton; 2, E. M. McIntosh.

TOPICAL REFLECTIONS

By Xrayser

Practice of pharmacy

I have read the report of the Committee on the General Practice of Pharmacy, containing the findings of six years' study. So far, all I have done is read it through. It has not yet been closely studied. I found myself comparing it, so far as its compilation goes, with the report of the Committee of Inquiry, published at a most unpropitious time during the war. That report was a model of clarity of expression, and the new one, judged solely on that basis, seems laboured by comparison. Inevitably, much of the earlier document was thrown out of gear by the upheaval of war and the rapidly changing conditions in post-war Britain, but it would be wrong to suppose that the work was rendered nugatory on those accounts. Though dealing with quite different circumstances in the pre-war era, the conclusions proved to be remarkably accurate in many respects, and only now are we fulfilling the aspirations expressed at that time. It may be doubted if such fulfilment would have been reached without the social upheaval which followed on the conflict, but the shape of the professional pattern of today was undoubtedly moulded at that time. We now have the standard of qualification envisaged then. We now have a National Health Service of a pattern foreshadowed about twenty years ago, though no one could possibly have visualised the volcanic turmoil which has taken place in the materia medica. It would, I feel, do no harm to approach the formidable problems of the present document through the now historical reports of 1937-41. They seem to me to be a necessary background to a complete understanding of what is visualised today. If we are to know where we are going, we must know where we are and where we came from.

Branch study

It is right that the report, in its present form, should be submitted to the whole body of pharmacy for discussion, for study and for comment. But it should be realised that there are no short-cuts to conclusions. The problems of pharmacy are formidable, and some of them have been faced in the investigation just concluded. But a full understanding of their import cannot possibly be reached at one or two meetings of a branch or of its committee. It is a matter for individual study by every member of the Pharmaceutical Society, and that study might very well begin with the main recommendations published at the end of the report itself. Each of these, from A to X, must be carefully considered, and if they are found to be unacceptable, the reasons for coming to the conclusions must be studied in the main body of the report. Many of the recommendations involve a departure from the general pattern which has evolved over the years. In some, it is clear that the committee envisage closer collaboration between existing units, and it is here that the sturdy individualist may be difficult to convince, for there can be few professions or trades with such a poor record in the way of co-operation. Nevertheless, the questions posed have to be faced collectively and, if found finally acceptable, there must be unswerving loyalty to the pattern laid down. But before that stage is reached, a large body of pharmaceutical opinion will have to be convinced that the signs for the future have been read correctly.

Fair

The Minister of Health (Mr. Enoch Powell) addressing the annual conference of the Executive Councils' Association at Hastings on October 5, expressed concern that the average cost per prescription for the six months March-August had risen to 8s. 4d. compared with 7s. 4d. a year earlier. He said "The question which you and I and all who share in the responsibility have to answer is: 'To what extent was this increase wholly, exclusively and necessarily called for by the interest of the patients, and in so far as it was not so, what are we doing about it?'" Well, now. What are we doing? The increased cost coincides with the increased charges prescribed by Mr. Powell himself. And yet Mr. Powell says that the cost of chemists' services must not be over-looked, and that his scale of remuneration should be seen to be fair. Chemists would welcome that.

TRADE NOTES

In Ample Supply Again. — Uni-Pharma, Ltd., 229 Shaftesbury Avenue, London, W.C.2, announce that supplies of Lobidan are again readily available and orders are being met from stock.

Amending an Advertisement.—Boots Pure Drug Co., Ltd., Station Street, Nottingham, state that their prices for oral diuretic preparations are reduced as from October 13 and not as stated in advertisement on p. 11.

An 80-oz. Pack.—Denver Laboratories, Ltd., 12 Carlisle Road, London, N.W.9, announce that Organidin elixir is now available to hospitals in an 80-oz. winchester in addition to the normal 4-oz. pack.

Correcting a Press Statement.—Burroughs Wellcome & Co., The Wellcome Building, Euston Road, London, N.W.1, wish to confirm that their product Marzine may be legally sold without prescription and not as indicated in a recent national Sunday newspaper.

After-sales Service. — Denhams (NCH), Ltd., Norvic Works. Stirling Road, London, W.3, claim to offer "the most comprehensive after-sales service for electric blankets." The company's range includes ten fully guaranteed 12—250-volt models.

A New Large Pack.—Parke, Davis & Co., Staines Road, Hounslow, Middlesex, announce the availability of a new large pack of Humatin syrup (a preparation of the antiamoebic antibacterial antibiotic Humatin (paromomycin, P.D. & Co.)—a bottle of 500 mils.

For Baby-foods Customers.— An 11-in. tall teddy-bear in washable nylon is available to consumers who send in a postal order for 12s. 6d., the labels from any three Heinz baby foods, and an order form that may be obtained from chemists and grocers, to H. J. Heinz Co., Ltd., Harlesden, London, N.W.10.

Label Redesigned. — Kalium Products (Redditch), Ltd., Redditch, Worcs, are issuing their product Pro-Tekt-her under a new label in yellow, white and chocolate, illustrated with the head of a bull mastiff bitch. Pro-Tekt-Her, described as "the safe way for bitches," is sprayed on the animal and the kennel to keep dogs away when the bitch is on heat.

A Pair Plus Onc.—An extra right-hand glove is being supplied with each pair of Suregrip rubber gloves. The price offers an advantage to the purchaser, and the offer is being advertised from all major commercial stations from November 7. Display material is available from the manufacturers, London Rubber (Industries), Ltd., Hall Lane, London, E.4.

Lavatory Powder.—Pronet Products, Ltd., 1A Rossiter Road, London, S.W.12, state that, although their Wonder Clean lavatory powder is at present being distributed only to industrial factories, municipal authorities and hospitals in bulk, they hope eventually to launch the product on the consumer market. In the meantime any chemist may obtain supplies at usual trade reductions,

A Car for a Shaver Supplier.—In a consumer contest organised by Remington Electric Shaver, Ltd., 26 Kensington High Street, London, W.8, a first prize of £500 and twenty-five consolation prizes of the purchase price of the shaver are being awarded to customers purchasing Remington shavers (including the Princess model), during the period October 1 to December 14. The contest requires the customer to list in order of importance eight sales features of the Remington Roll-A-Matic shaver. Having filled in his or her name and address and warranty card number, the entrant sends the form to the company. The stockist supplying the winner with the shaver receives a trade prize of a four-door Ford Consul Classic car worth £800, or the cash equivalent. Display material is available. The winners are to be notified by telegram before Christmas Eve.

In Two Pastel Shades and "Natural."

—Jeyes toilet rolls are now available in pastel pink and pastel blue shades in addition to the "natural" shade. The price is unchanged. The new



wrapper of the product is shown. The rolls are marketed by Jeyes Sales, Ltd., River Road, Barking, Essex.

Investing in the Public.—Two years ago Spa Brushes, Ltd., Chesham, Bucks, launched an "aristocrat of toothlaunched an "aristocrat of tooth-brushes," made of the finest quality materials and designed to get clean mouths as well as brushed teeth. tooth-brush cost twice the price of most other tooth-brushes, yet it was enthusiastically received, state the makers, by people who regarded the price of a packet of cigarettes as a small investment for clean breath and sound teeth. Users of the brush were high in their praise. However, since its introduction, the cost of the pure Chinese bristle used in its manufacture has more than doubled. Rather than substantially increase the price of their commodity, the company took the unusual step of investing in the public instead, by making a nominal increase of only sixpence per toothbrush. The company's sales manager believes that national awareness of the joy of a clean mouth will pay good dividends on that investment.

Soft Drinks "Double Offer."—J. & J. Colman, Ltd., Carron Works, Norwich, are making a combined consumer and trade offer this autumn on the whole range of Robinson's soft drinks. To the

public they make a national premium offer of three Melamine beakers to tie in with a "Drink Robinson's Lemon Barley Hot" campaign. Normally priced at 13s. 6d., the set of three beakers, which are specially designed to take boiling water and will not crack or chip, is offered at 7s. 6d. plus two lemon or orange barley bottle tops or one bottle top from any other drink in the Robinson's range. Details of the offer are announced in a special display incorporating leaflet box and sample beaker. To the trade the company's offer, made so as to help retailers build up stocks in advance of the Christmas sales peak, is of bonus terms on all Robinson's soft drinks (until December 2). On every order for 6 doz. assorted drinks, including 1 doz. lemon barley, six bottles of lemon barley are being supplied free. Every order for Robinson's trio (whole grapefruit, smash and lemon smash) qualifies also for an extra display allowance of 2s. per doz.

Sole Distributors. — The Robugen, G.m.b.H., German medicinal specialities are being distributed in Britain and the Republic of Ireland solely by Delmex, Ltd., 48 Studholme Court, London, N.W.3. The range includes Mirocor, a heart and circulatory containing crataegus, peppermint, valerian, lily-of-the-valley and cinnamon; Dirautheon (for the treatment of hypertonia), containing digitalis, rauwolfia and theobromine; Robufacton, each dragee of which contains 25 mgm. of the principal active substances of cabbage juice and is put forward for gastrointestinal ulcers, liver diseases, etc.; Tumarol-balsam, an ointment containing menthol, camphor and volatile oils, against colds; Rheogen, containing rhubarb, aloes and belladonna, against constipation; Rheuma-stick M, an constipation; Rheuma-stick M, an ointment-stick containing capsicin, turpentine and methyl salicylate; Munitrem, a non-greasy hydrocortisone oint-ment with the addition of antimycotic and antibacterial ingredients; Anti-hydral, hexamethylenetetramine in a fat-free ointment base, for hyperhidrosis and related skin complaints; and Antihydral M, containing precipitated sulphur and hexamethylenetetramine in a non-greasy ointment base.

Bonus Offers

CROOKES LABORATORIES, LTD., Park Royal, London, N.W.10. Karvol inhalant capsules. Thirteen to doz. on 2 doz. (minimum) to 5 doz.; fourteen to doz. on 6 doz. or more on direct orders from retail pharmacists only. [Corrected note.]

B. HOOPER & Co., LTD., 6 Railway Place, Fenchurch Street, London, E.C.3. Camthol linctus, pastilles and vapour rub. Thirteen invoiced as twelve. Because of a typographical error the prices shown in the advertisement on p. 40 are incorrect. The correct prices are as shown in THE CHEMIST AND DRUGGIST Quarterly Price List.

THORNTON & ROSS, LTD., Linthwaite, Huddersfield. Vi-lan lanolin cream. Twelve invoiced as eleven.

NEW PRODUCTS AND PACKS

A Combination Against Anxiety.—Roche Products, Ltd., 15 Manchester Square, London, W.1, announce the introduction of a new speciality Libraxin, a compound for the treatment of gastrointestinal disorders. Libraxin combines the anti-anxiety properties of Librium with the antispasmodic properties of clidinium bromide. It is issued as tablets in containers of twenty-five, 100 and 500.

For Differential Diagnosis. — The British Drug Houses, Ltd., Graham Street, London, N.1, announce the introduction of Secrodyl tablets each containing dimethisterone 10 mgm. and ethinyloestradiol 0.05 mgm. for the diagnosis of pregnancy, and especially to simplify the differentiation between amenorrhæa of short duration and pregnancy. With Secrodyl the differential diagnosis can, it is claimed, be resolved earlier than is possible by the use of other diagnostic aids. One tablet taken by the patient night and morning on two consecutive days resolves the condition. Secrodyl tablets are issued in container of four tablets and dispensing pack of twenty.

A Baby Cream with Hexachlorophene.—Cuxson, Gerrard & Co., Ltd., Fountain Lane, Oldbury, Birmingham, announce the introduction of a new product in their baby products range: Sanoid baby cream. A feature of the



cream is that it contains hexachlorophene, and therefore assists in the prevention and treatment of napkin rash. Each tube is individually packed in a carton, and the cartons are in outers of six and twelve. The pink and blue colours and lettering style of the pack match those of the other Sanoid baby products.

A Medicated Tooth-paste.—Emoform medicated tooth-paste, a product introduced by Willows Francis, Ltd., Epsom, Surrey, has been formulated for the treatment of hypersensitive teeth and sore and bleeding gums, but claimed to be also a highly efficient tooth cleanser. The product is made available in the United Kingdom by arrangement with the originators (Dr. Wild & Co., Basle, Switzerland). In a number of European countries (and as Thermodent in North America and Canada) the tooth-paste has been successfully marketed for a number of years. Emoform is being introduced to the dental profession by Pharmaceutical Manufacturing Co. (a subsidiary of Messrs. Willows Francis). The tube contains 50 gm.

New Baby Food Varieties. — H. J. Heinz Co., Ltd., Harlesden, London, N.W.10, have introduced six new baby food varietics containing meat as the main ingredient. They are strained and



junior veal, lamb or beef dinners. Each is balanced with vegetables to make it a complete meal. The style of label has been changed to make the new foods

easily distinguishable from the other baby foods in the range. From September 25 the suggested retail price structure of all varieties of Heinz strained and junior foods has been simplified (for details see Cumulative Price List).

"Radically New." — Revlon International Corporation, 86 Brook Street, London, W.1, have put on the market what they claim to be a unique lipstick formula that "will completely revolutionise the lipstick industry." The lipstick, Super-Lustrous II, gives the "ultra-moist, smooth, sumptuous look every woman has long desired." The colours are understood to be richer and brighter, "with no colour change no matter how dark or light the shade." Super-Lustrous II is available in twelve shades for sale from November 10.

Emollient Hand Lotion.—Latest product of Jane Seymour, Ltd., 162 New Bond Street, London, W.I., is Wonder hand cream in shaped bottle for firm grip. The product is described as a soothing emollient lotion that is quickly and easily absorbed into the skin, leaving no feeling of stickiness and replacing oils lost through continual washing with soap and water.

New In From Paris. — Mme. Elsa Schiaparelli's newest perfume, "S," is now available in Britain through the distributors, George Spencer & Son, Ltd., Kynance Place, Gloucester Road, London, S.W.7. "S" is described as "a joyous fragrance of great originality and charm . . . a bouquet of sundrenched blossoms with a captivating note of leafy green. The frosted crystal bottle has a sculptured "S," a new pink-gold cap and a pink satin bow. The box in which it is mounted is in pink lace design in white, with touches of gold.

MULTIPLE VACCINE FOR SHEEP

Immunity from seven diseases by new system

A REVOLUTIONARY method of protecting sheep against disease is claimed by the Wellcome Foundation, Ltd., for their Covexin system of inoculation. Costing little more than that for a single disease vaccine the company state that Covexin combines in a single vaccine all the antigens necessary to immunise sheep against all the main clostridial diseases—lamb dysentery, pulpy kidney disease, struck, braxy, blackleg (including post-parturient gangrene), black disease, and tetanus.

The large number of injections previously employed may now be cut to two per sheep per year which enables the sheep farmer to time all inoculations to coincide with gatherings for other purposes—shearing, marking, etc., and thus results in a considerable saving in labour costs.

Other claims for the vaccine which has had extensive trials for over three years, are that expensive emergency measures need not be adopted should one of the diseases appear in the locality because the sheep will already have been immunised; and feeding time for lambs is cut by a month (in the past lambs had to be weaned on to

better pastures gradually since the sudden access to lush food precipitated disease).

Covexin vaccine contains: Cl. welchii types B, C, D, Cl. septicum, Cl. chauvoei, Cl. oedematiens, Cl. tetani vaccine A.P. and is packed in bottle of 250 mils (50 doses) which retails at 75s.

Introducing the vaccine at a Press conference in London on October 10, Dr. R. F. Montgomery (veterinary research director) said that Covexin was the outcome of many years' work in anærobic bacteriology during which many problems had been solved, after many disappointments. Improved culture methods had to be devised whereby maximum yields of toxigenic growth products essential for the preparation of high value antigens were obtained. An example of the many difficulties involved was that of obtaining adequate response to each component of a multiple vaccine; mixing the antigens was not sufficient. It was necessary to determine how each individual antigen could be incorporated and still retain its maximum ability to stimulate immunity in the presence of the other

LEGAL REPORTS

Forged Prescriptions

AT Warrington borough court recently it was stated that a Stockton Heath woman, Vida Ellis, found a doctor's blank National Health Service prescription pad in the street, and forged prescriptions on three occasions to obtain drugs. When prescriptions were being checked at the pharmacy of Hill, Smith (Warrington), Ltd., suspicions were aroused concerning one, and when the defendant presented a further one, the police were informed. In an alleged statement Mrs. Ellis admitted the offences. The case was adjourned for a report.

COMPANY NEWS

Last year's figures are in parentheses

GLAXO LABORATORIES, LTD.—Sir Edward W. Playfair, K.C.B., has joined the board.

BARCLAY & SONS, LTD. — It is proposed that the right to convert the $6\frac{1}{2}$ per cent, loan stock into ordinary shares should be extended by a further period of two years expiring on September 1, 1963.

PHARMACEUTICAL SPECIALITIES (MAY & BAKER), LTD.—Mr. E. V. Thomas has been appointed chairman; Mr. W. A. Stewart, M.P.S., vice-chairman; and Mr. R. W. E. Wood, M.P.S., general manager.

WILLOWS FRANCIS, LTD. — A final dividend of $12\frac{1}{2}$ per cent, for the year ended June 30 is recommended making $17\frac{1}{2}$ per cent, for the year (same). Trading profit is £64,498 (£69,409); taxation, £33,634 (£32,515) leaving net profit, £30,864 (£36,894).

P. P. PAYNE & SONS, LTD.—An unchanged interim dividend of 5 per cent, and a pre-tax profit for the first half of 1961 of £42,000 (compared with £56,000 for the same period of last year) is announced. Results for the second half of the year are expected to compare favourably with those of the second half of last year.

HORLICKS, LTD.—Final dividend for the year ending March 31, is 20 per eent. (same) making a total of 30 per eent. for the year (same). Group profit after all charges including taxation, £528,395 (£579,323); United Kingdom taxation, £382,657 (£439,003) and foreign tax, £139,069 (£90,602). Group profit attributable to holding eompany is £516,495 (£579,794).

FARBWERKE HOECHST A.G.—Profits will probably be the same as last year according to Professor Karl Winnacker (chairman). As turnover was likely to increase by about 7 per cent. during the year, that mcant that less money was left to invest or to put to reserves, he added. A capital increase was still being considered by the company, but finances for the current year had been safeguarded and were available.

HILGER & WATTS, LTD., and W. OTTWAY & CO., LTD. — The directors of both companics announce that they have reached an agreement whereby Hilger & Watts, Ltd., will offer to acquire the whole of the issued

capital of W. Ottway & Co., Ltd, (namely 560,000 ordinary 4s, shares) on the basis of one Hilger & Watts ordinary 5s, share for every six ordinary shares of Ottway. The directors recommend acceptance,

JOHN E. STURGE, LTD.—Interim dividend is unchanged at 4 per cent. Turnover to the end of September has been slightly ahead of last year. Since June, however, intense competition has materially reduced selling prices and margins. In the absence of any further deterioration in conditions, the board hopes to maintain the distribution for 1961. In the previous year an interim of 3 per cent, was followed by a one-for-five scrip issue, a cash issue and dividends totalling 7 per cent, on the increased capital.

ASSOCIATED CHEMICAL COS., LTD.—Group trading profit and other income fell to £676,777 for the half-year to June 30 (compared with £816.091 for the first half of 1960). The interim dividend is maintained at $6\frac{1}{4}$ per cent. A total of 16 per cent. was paid for 1960, and the directors had forecast a total of not less than that rate for 1961 on the capital as increased by the issue of shares against the acquisition of the Farmers Co., Ltd. The directors state that the trend towards narrower margins in both the home and export markets has continued. Profit, before tax, for the half-year is £382,402 (against £548,172 for the 1960 period) after depreciation of £249,375 (against £222,919) and debenture interest £45,000 (£45,000). Tax takes £131,781 (£205,270) leaving a net income of £250,621 (£342,902).

BUSINESS CHANGES

TAYLOR, FURST & CO., LTD., have announced that their trading aetivities were taken over by their parent company, Wallace, Cameron & Co., Ltd., 513 Shields Road, Glasgow, S.1, from October 7.

THE administrative and sales offices of the Yorkshire manufacturing companies in the Laporte group are in new accommodation at Eastgate House, Leeds, 2 (telephone: Leeds 32171). Companies concerned are Laporte Acids, Ltd., with works at Hunslet, Castleford and Cleckheaton, and James Wilkinson & Son, Ltd., and the Sheffield Chemical Co., Ltd., both with works at Sheffield and Rotherham.

Appointments

EVANS MEDICAL, LTD.. Speke, Liverpool, 24, have appointed Mr. J. H. Anderton hospital representative in the North of England.

WILLIAM R. WARNER & CO., LTD., Eastleigh, Hants, have announced the appointment of Mr. A. G. Johnstone, B.Sc., to their ethical division as marketing executive.

EKCO HEATING & ELECTRICAL, LTD., 41 Old Street, London, E.C.1, have appointed Mr. D. R. Haddock their sales representative for electric blankets for London, North of the Thames.

UNICHEM, LTD., Broadwater Road, London, S.W.7, announce that Mr. B. M. Rusling, M.P.S. (executive assis-

tant to the managing director), and Mr. G. J. White, M.P.S. (manager, Walthamstow warehouse), have now been appointed executive directors and will be responsible for sales and expansion respectively.

MISS B. P. PARK has been appointed sales manager of the eye protection department, Pyrene-Panorama. Ltd., Windmill Road, Brentford, Middlesex. Miss Park has specialised for many years in industrial eye protection, and is widely known throughout the country to safety officers and organisations as the secretary, central metropolitan group, London Industrial Committee

Teaching Appointments

SCHOOL OF PHARMACY, Bristol College of Science and Technology.— The post of senior lecturer in physiology and pharmacology will be taken up by Dr. M. J. Davis, B.Pharm.. from January 1, 1962. Dr. Davis is at present teaching at Leicester College of Technology and Commerce.

PERSONALITIES

MR. H. CALDWELL, M.P.S., who has been manager of the Rochdale branch of Boots, Ltd., for the past thirteen years, has retired. Mr. Caldwell is a member of the Rochdale Pharmaceutical Committee,

MR. LANCELOT CLAUDE BULLOCK, who was appointed a trustee under the will of the late Sir Henry S. Wellcome, has retired from the Wellcome Trust. For many years Mr. Bullock was senior partner in a London firm of solicitors and his associations with Sir Henry Wellcome go back to the time he was asked to advise and draft the will under which the Trust was created. He is succeeded by Mr. Robert Malleson Nesbitt.

MR. OWEN ROWLANDS, M.P.S., who has been manager of the Weybridge branch of Boots, Ltd., for the past thirty-two years, has retired. Mr. Rowlands' brother was manager of one of the company's branches at Sutton, Surrey, for many years, and their combined service to the company totals over eighty years. Mr. Rowlands is a founder member and past chairman of the Woking Branch of the Pharmaceutical Society.

MR. E. V. WOOD, M.P.S., who has been appointed general manager, Phar-

maceutical Specialities (May & Baker), Ltd., joined May & Baker, Ltd., in 1940. He became home sales manager in 1949 and was appointed to the board of directors of Pharmaceutical Specialities (May & Baker), Ltd., in 1955. He represents his com-



pany in the Association of the British Pharmaceutical Industry. Mr. Wood was granted the freedom of the City of London in 1938.

Correspondence A Research Trust Fund

SIR,—Dr. J. P. Todd (professor of pharmacy in the Royal College of Science and Technology, Glasgow) retired at the end of August after forty years on the staff of the College. On his appointment to the chair in 1937 Professor Todd became the first professor of pharmacy in Britain. Since then he has worked continually to raise the educational status of the pharmacist by the development of the Glasgow University degree in pharmacy, as a member of the Education Committee of the Council of the Pharmaceutical Society, as a member of the Society's board of examiners for Scotland, and in many other ways. Since his early days Professor Todd has shown a great interest in research, and has established in Glasgow a flourishing school of research workers. It has been decided, therefore, to establish a Research Trust Fund to perpetuate his name and to invite contributions to the fund. A general appeal is being made to former students, colleagues, and friends, and it is hoped that the response will be sufficiently generous to enable a research scholarship or fellowship to be established at the school of pharmacy of the College. The honorary treasurer of the Fund, Dr. G. H. Macmorran, 36 York Place, Edinburgh, 1, will be very pleased to receive any contribution. Cheques should be made payable to the "Professor J. P. Todd Trust Fund."

K. SCATCHARD, Chairman of the Committee, Glasgow, S.1

MARRIAGES

HAMPSON — MENDUS. — At Tabernacle Church, St. Davids, Haverfordwest, Pembs, recently, Desmond Graham Hampson, M.P.S., 11 Pontcanna Street, Cardiff, to Janet Morfydd Mendus, M.P.S., 14 Cross Square, St. Davids.

STOCKILL—LIMBACK. — At St. Michael and All Angels' Church, Hull, Yorks, on September 30, Trevor Alan Stockill, M.P.S., Fair View, Gilberdyke, Brough, Yorks, to Josephine May Limback, M.P.S., 23 Ellesmere Avenue, Sutton Ings, Hull.

DEATHS

COSSINS.—In hospital recently, Mr. Alfred Edward Cossins, director of Bleasedale, Ltd., 23 Colliergate, York, aged fifty-three.

EVANS. — Recently, Mr. Daniel Griffith Evans, M.P.S., 12 Belvedere Road, Llanelly, Carms, aged sixty-five. Mr. Evans was manager of the local branch of Boots, Ltd., until his retirement six years ago. Before going to Llanelly in 1935, he had held managerial appointments at Treherbert and Monmouth.

HERSCHMANN. — On September 10, Mr. Kurt Herschmann, M.P.S., 32 Ellerdale Road, London, N.W.3. Mr. Herschmann qualified in 1943.

HINDER.—On October 3, Mr. Pereival G. H. Hinder, founder and managing director, Hinders, Ltd., 174 Estcourt Road, London, S.W.6.

MANUFACTURERS' ACTIVITIES

A Large Canadian Order.—Orders for Deep and Lemon-cream shampoos and for Handy Pads (nail varnish remover-conditioner) have been placed with the Charles Bedeman Research Organisation, 180 Queens Road, London, S.E.15, by the two largest groups of stores in Canada.



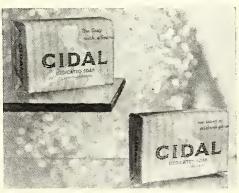
"MARKETING MAN OF THE YEAR": Mr. Brian Lawrence (centre) receives the Kimberly-Clark "Marketing Man of the Year Trophy" from Mr. L. Hornsby (general sales manager, consumer division, Kimberly-Clark Ltd., Larkfield, Maidstone, Kent). Also in the picture is Mr. K. J. Barciay (marketing manager, consumer goods division).

Cologne Visits as Prizes. — Prizewinners are announced in a 4711 trade competition organiscd in the Southern Television area by Scott & Bowne, Ltd., 50 Upper Brook Street, London, W.1. Prize is a visit to Cologne. The winners are Miss S. Thomas (W. Martin, Ltd.. Southampton); Mrs. M. B. Duck (Higgins & Son, Market Place. Salisbury, Wilts); and Mrs. Irene Sutton (Boots, Ltd., 36 St. Mildreds Road, Westgate-on-Sea, Kent). There were also ten consolation prizes.

First Prize in a Package Contest.—Durazone-Choice have won first prize and two other awards for metal aerosols in a European aerosol packaging contest organised by the Federation of European Aerosol Associations at their 1961 international eongress, Lucerne, Switzerland. More than 200 packs were submitted by manufacturers from Germany, Great Britain, France, Sweden, Switzerland, Italy, Finland and other countries. The pack that won the prize is for Choice aerosol de-icer for defrosting car windscreens and windows

An "Imported" Appeal in Holland.

—After just over four years in Holland, during which time it has been obtain-



able in that country only through doctors, nurses and midwives, Cidal soap is being distributed direct to the con-

sumer. In its initial period Cidal moved up to first place in sales as a medicated soap, and a fringe consumer demand began to grow. That demand is being exploited by a campaign which began in September. Other manufacturers interested in exporting to Common Market countries may care to note that, "to give the soap an exclusive 'imported' appeal," the English slogan, "The Soap with a Secret," has deliberately replaced the original Dutch on the "medical" pack, Cidal soap is made by J. Bibby & Sons, Ltd., King Edward Street, Liverpool. 3.

EXPANSION PLANS

A NEW and economical method for manufacturing synthetic glycerin has been developed by the organics division, Olin Mathieson Chemical Corp., New York. The corporation is building a multi-million dollar plant to produce glycerin by the new method at the division's Doe Run factory in Bradenburg, Kentucky. The plant is expected to be in operation by April 1962, and have a capacity of more than 40 million lb. a year.

HOWARDS OF ILFORD, LTD., a member of the Laporte Industries Group, announce that they are undertaking two major developments. The first is a new unit to make dicyclohexyl phthalate a solid plasticiser extensively used in the transparent wrapping film and paper industries. It will be much larger than the company's present unit and will supply all likely increases in home and export requirements of that material for some years to come. Construction will start soon and completion is expected before the end of 1962. The second project covers the construction of a plant to produce cyclohexanol and cyclohexanone by the direct oxidation of cyclohexane with air. The plant will have an annual capacity of 9,000 tons of total products and is expected that the unit will be completed by the end of 1963.

THREE American companies recently announced plans for expansion in Europe. JOHNSON & JOHNSON said that they had contracted to purchase a Belgian pharmaceutical firm and its affiliates in Holland and West Germany. Terms of the transaction were not disclosed. The acquisition includes Laboratoria Pharmaceutica Dr. C. Janssen, N.V., in Turnhout, Belgium, and Research Laboratorium Dr. C. Janssen, N.V.. in Beerse, Belgium, plus two Janssen affiliates. — Dupont Co. said that together with Industrias Aragonesas, S.A., of Madrid, Spain, they would form an equally-owned Spanish affiliate company to make dithiocar-bamate fungicides. The new company. Desarrolla Quimco Industrial, S.A., would build a plant at Sabinanigo in the Pyrenees to make fungicides to control mildew, leaf blights and fruit rots. The plant was expected to be ready for operation next year, provided approval was given by the Spanish Government. MONSANTO CHEMICAL CO., St. Louis, U.S.A., have announced the establishment of a European headquarters in Geneva by the company's wholly owned subsidiary, Monsanto Overseas, S.A. (MOSA).

GUILD OF PUBLIC PHARMACISTS

Meeting of Council

THE council of the Guild of Public Pharmacists met in London on September 30. The council decided, in view of (a) the importance that attaches to recognition of the pharmacist as an expert on sterilisation, and (b) the differing arrangements being made in various hospital groups for providing sterile fluids, dressings and instruments to theatres, wards and departments, to appoint a sub-committee to review the whole field. The subcommittee will consider the responsibilities that ought to be undertaken by hospital pharmacists in the matter.

An Undertaking Breach

The council's attention was drawn to the proposed publication, by the Society of Apothecaries, of a roll of assistants in dispensing. It was noted that a holder of the certificate of assistant-in-dispensing was required to give an undertaking that he or she would engage in dispensing under the supervision of a registered pharmaceutical chemist or registered medical practitioner, and that the dispenser's certificate made no mention of pharmaceutical chemist but of "assistant to an apothecary." It was considered that those words constituted a breach of an undertaking previously given by the Society indicating that assistants-in-dispensing would be trained by pharmacists to become assistants to pharmacists. The president and secretary of the Guild were asked to approach the Society of Apothecaries and to make urgent representations on the matter.

The planning committee reported that more than 250 copies of the revised booklet "Hospital Pharmacy Planning" had been sold. The committee was arranging a visit to Guy's Hospital to see in operation its new pneumatic-tube system of delivery to the wards. In response to a request

from the Ministry of Health, the committee was considering the requirements that ought to be met in a standard prescription form suitable for use in hospitals, and interested pharmacists were invited to make suggestions to the committee as to what details should be

incorporated in the proposed form. A working party was set up to consider the principles on which pharmacy should be organised in National Health Service hospitals, so as to guide the council in determining policies to be pursued.

Note was taken of a revised rule (given in the memorandum H.M. (61) 77) governing the provision of telephones for hospital staffs.

LANCASHIRE ANALYST'S REPORT

Labelling criticisms and comments

IN his annual report to the Lancashire County Council, the county analyst (Dr. G. H. Walker) comments on the labelling of certain samples submitted during 1960.

Three samples of rose-hip syrup showed minor discrepancies, either in the manner of declaration of vitamin C content or in respect to the amount of vitamin C present. One sample bore a declaration that it contained 200 mgm. of vitamin C per 100 mils. The vitamin content was found satisfactory but, under the Labelling of Food Order the declaration is required to be in terms of mgm. of vitamin C per oz. The sample concerned proved to be of old stock, correct labels being already in use by the manufacturers. The other two samples were both of rose-hip syrup, and for both the form of declaration was correct (57 mgm, of vitamin C per fl. oz.) but analysis revealed vitamin-C contents of only 54'5 and 50 mgm. per fl. oz. respectively. The makers of both samples were written to.

An informal sample of a tonic wine, submitted by an autonomous Food and Drugs Authority, was an imported wine and bore the declaration "Strength N.E.27"." Upon examination it was found to contain 23.5 per cent, proof spirit and gr. 1.9 of quinine per pint. The declaration of alcoholic strength was not in the form prescribed by the

Labelling of Food Order, and the analysis appeared to disclose a deficiency in proof spirit. It transpired, however, that the letters "N.E." in the form of declaration used referred to the expression "not exceeding," the declaration being made for Customs and Excise purposes for determination of the amount of import duty; it had no bearing on the requirements of the Labelling of Food Order, which further requires that, where tonic properties are claimed, the product must contain one or more substances (other than alcohol) in sufficient quantity to confer such properties, the appropriate percentages of each having to be stated on the label. Of that sample no reference was made on the label to the presence of quinine. The packers were cautioned. They agreed to amend the label.

A sample of cod-liver oil was found upon examination to contain only 350 units of vitamin-A activity per gm. (against the B.P., minimum limit of 600 units) and to have an acid value of 1.6 (B.P. upper limit, 1.2). There were indications that the sample was old stock as it had a deeper colour than usual, and there was some gumming of oil around the neck of the bottle.

Lipstick Colours

The nature of the colouring matter in three samples of lipsticks was regarded as unsatisfactory. All three were found to contain eosin and two, in addition, Rhodamine B. Both those materials were non-permitted food colours and were classified "C" (colours shown to have, or suspected of having, harmful effects on health) by the preservatives subcommittee of the Food Standards Committee in their report on colouring matters. The Colouring Matter in Food Regulations, 1957, do not apply to pharmaceutical products or to cosmetics, but within recent years colour-ing matters in B.P. or B.P.C. prepara-tions have been changed to others regarded as harmless. The county analyst expressed the opinion that "in view of the relatively large amounts of colouring matters present in lipsticks compared with the small amounts normally used to colour food, it is surprising that colouring matters other than those regarded as harmless should continue to be used in any preparation that comes into contact with the lips and mouth."

N.H.S. STATISTICS

In Northern Ireland during June 554,371 prescriptions (397,904 forms) were dispensed at a total cost of £210,109. Average cost per prescription was 90.96d.

GOLFERS' SUPPER

South London and Surrey Society's seventh birthday

THE seventh birthday of South London and Surrey Pharmacists' Golfing Society was marked on September 27 by the annual supper at Shirley Park golf club. Of the ninety diners, seventy-five had played that afternoon for the premier award of the season—the founder's trophy—and other prizes. Under the chairmanship of the acting captain (Mr. Frank Jamieson) and announced by Mr. Marsden Lewis, the season's prize and trophy winners were presented with their awards by the principal guest (Mr. John Penson, captain of the Shirley Park club). Principal awards and winners were as follows:—Founder's trophy and Scotia howl: B. Stephenson; President's prize: D. Spier; Croydon shield: M. N. Doyle; Unichem trophy: G. Howell; Cow & Gate trophy and Captain's prize: A. V. Hall; Cupal prize: F. Jamieson; Calcutta cup: K. Barke, Widocks memorial trophy: J. F. Needham; Bobby Locke trophy: J. Widocks; Verona trophy: H. Reynolds; Phil Thorpe putter: G. Roberts: Seniors' prize:

H. L. Duckering; *Ucal challenge cup*: G. Howell. During the evening Mr. Howell, on behalf of the Banstead golf club, presented the acting captain with a new competition trophy to be known as the "Banstead bowl."



Mr. Brian Stephenson (Shooters Hill golf club) (right) receiving the founder's trophy from Mr. John Penson (captain, Shirley Park golf club).

The Pharmaceutical Services

AN ADDRESS BY THE MINISTER OF HEALTH

LIKE all other professions taking part in the Health Service, pharmacists "not only place their professional skill at its disposal, but do much more than the minimum required by their professional duties. This is fully recognised but I am sure that the chemists on their part recognise that the scale of remuneration must be one which is seen to be fair and reasonable as between taxpayers and the profession, and can thus be justified in the framework of the National Health Service, said Mr. Enoch Powell (Minister of Health) when he addressed the annual conference of the Executive Councils' Association (England) at Hastings on October 5. Mr. Powell began his speech by stating that of the £200 millions administered by the Executive Councils of England and Wales in the current year, no less than one-third, or £65 millions was the net cost of the Pharmaceutical Services. It must be ensured that the huge sum was spent wholly exclusively and necessarily for the benefit of patients in the National Health Service." It had seemed to be suggested that his and his predecessors' efforts to ensure that object implied some failure to recognise the immense blessings which had flowed from modern pharmacology, or some denigration of the professions and industries con-cerned. "Of course, there is no such implication. What we in the National Health Service want is to have the medicines which will do the job, and to have them on the best terms for the taxpayer on which we can get them; this is a duty, a continuing duty, one implicit in our responsibility for service, and one which carries with it no criticism, directed or implied, of anyone else." Mr. Powell continued "We are not excused this duty by the fact that the rising cost of prescriptions . is a phenomenon not peculiar to this country or to the National Health Service. We are not asserting that the cost of prescriptions ought not to rise.

" Open-ended "

"We are saying only that it is our business to ensure as far as we can that the rise is no more than is necessary to give patients the benefits of modern pharmacology." He did not consider they were excused by the oft-quoted assertion that the drug bill remained a relatively constant percentage of the total cost of the National Health Service. There was no right to assume a priori that the cost of the Pharmaceutical Services should be 5 per cent. or 10 per cent. or 20 per cent. of the total cost of the Service. "Our business is to try to see that it is, as near as may be, the right sum; and no amount of statistics about proportions and percentages last year, ten years ago, here or in other countries, will do that business for us." Dealing with the increased prescription charge imposed in March he said that where the Pharmaceutical Services were concerned: that item of expenditure was one which, in Treasury jargon, is "open-ended." "Unlike most of the cost of the National Health Service, it is not controlled by estimate. The estimate for the hospital scrvice limits what is spent on the hospital service, and the hospital authorities plan what they will do within that limit: there the estimate controls the expenditure. But the estimate for the Pharmaceutical Services is only a forecast of what will in fact be spent: it controls nobody."

Considering the increased prescription charges, Mr. Powell stated that he had made it clear that the reason for it was to secure for the development of the National Health Service a sub-stantial additional amount of money which would not otherwise be available. It was not designed to reduce the gross amount of the drug bill. Accordingly the estimates which he presented to Parliament assumed a fall in numbers of prescriptions of only about 2 per cent. That was to take account of the elimination of certain items obtainable retail without prescription for less than 2s. and also of the expectation that, in cases of chronic illness, doctors would, where appropriate, prescribe for longer periods and thus less often.

Prescriptions Down 4.7 per cent.

The provisional results of the first six months since the higher charge showed that, compared with the average of the same months in the four previous years, the total number of prescriptions was down by 4.7 per cent.; but ignoring the first month after the change, the number was down by only 3.7 per cent.; and ignoring the first two months, it was down by only 2.0 per cent.

Though the prescription was the overriding factor in the cost of the Pharmaceutical Services, it would be a mistake, he said, to overlook the cost of chemists' services. No less than £27 millions or 31 per cent, of the estimated gross cost of the Pharmaceutical Services in England and Wales this year, represented gross remuneration to chemists. Prescriptions dispensed in the National Health Service accounted for little more than one-quarter of the total turnover of retail chemists. "This fact is an important one, because people sometimes talk as though the chemists' income from the National Health Service were the whole or the greater part of their livelihood."

However, it also remained true that so far as their professional work, the dispensing of prescriptions, was concerned, the Executive Councils accounted for about 95 per cent, of the services rendered by retail chemists.

rendered by retail chemists.

Mr. Powell then said "There have recently been negotiations between my Ministry and representatives of the pharmaceutical profession, and the Ministry have made proposals to which I am waiting to hear the chemists' response. I must be careful to say nothing today which will prejudice the outcome of these negotiations. So I shall mention merely the salient facts and refrain from drawing inferences.

In 1957, the first year following the last settlement for an increase in chemists' remuneration, the total of gross remuneration amounted to nearly £22 millions. In 1960 the corresponding sum had risen to £26 millions, and it seems likely that the figure for 1961... will be rather over £27 millions on present rates. This is an increase of 24 per cent. What the increase in net profit has been, depends on the way in which the relevant expenses have moved during the same period. These expenses absorb by far the greater part of the gross remuneration. It follows that if the risc in expenses falls short of the rise in gross remuneration, a much bigger rise in net profit results. On the basis obtained from the 1958 inquiry and brought up to date, the rise in relevant expenses over the last four years appears to have been such as would produce an increase in net profit of more than 50 per cent."

Concerning the cost of drugs, Mr. Powell said that medicines supplied to the National Health Service (including hospitals) represented only some 35 per cent, of the total production of the pharmaceutical industry in this country. However, the National Health Service was almost the sole home customer of the industry in the field of medicines not publicly advertised. That mostly through the Pharmaceutical Services, which accounted for £48 millions (wholesalers' prices) compared with about £13 millions spent by hospital authorities. What was the "right" price to pay for drugs was an arbitrary decision. "The duty of those responsible to the taxpayer is to use whatever bargaining power is at their disposal to get the best prices they can. . . . This is the thought behind the Government's decision to test the possibility of getting certain drugs for the hospital service at substantially lower prices by means of the powers available to the Crown under the Patent Acts; and it would have been indefensible to ignore evidence that, even after paying reasonable royalties to patentees, the same drugs could be obtained at much less cost from other sources.

On Hampering Development

It was sometimes suggested that by improving the terms on which it obtained drugs the National Health Service might somehow hamper the development of the pharmaceutical industry or damage its export potential. must confess I find this hard to undersaid Mr. Powell. "The healthy development of an industry can surely not depend upon its customers paying more than they need for its products nor can it seriously be argued that an export subsidy for the pharmaceutical industry should be added to the necessary costs of the National Health Service. Indeed it is arguable with much more colour that unless the price factor operates effectively in relation to the ethical products of the pharmaceutical industry, effort and resources are likely to be wasted through misdirection.

Statutory Committee

A PHARMACIST'S NAME REMOVED FROM THE REGISTER

THE Statutory Committee considered two cases on October 4. The first concerned a pharmacist in respect of whom information had been received from which it appeared that on April 11 he pleaded guilty and was convicted of embezzling cash amounting to £720 7s. 5d., the property of his employers, and for which he had been sentenced to nine months' imprisonment. The pharmacist attended the inquiry and Mr. A. C. Castle (solicitor) appeared in order to place the facts before the Committee. After producing formal evidence Mr. Castle indicated that a director of the company who was very familiar with the facts and had known the pharmacist for a considerable number of years would appear to give evidence. When examined by Mr. Castle, the director said that the main part of the deficiencies was due to the pharmacist accepting cash payments and not banking the monies, the accounts remained on the books as being unpaid. During the period he had known the pharmacist he was "an excellent man, conscientious and a most excellent manager." He was also considered as being a man of great integrity and responsibility. Asked by the chairman of the Statutory Committee (Sir Roger Fray Greenwood Ormrod, Q.C.) if he had any idea what was the cause of the lapse the director replied "Frankly, no; I can only imagine that although he was a capable manager in business, perhaps the management of his domestic affairs was not so good, I can think of no other reason. a statement to the Committee, the pharmacist admitted having pleaded guilty to the charge of embezzling cash and being sentenced to imprisonment, said that at the time a statement in mitigation was made on his behalf, and that the following circumstances should be considered by the Committee. He was aged fifty-eight, married and had a daughter aged seventeen. Until dismissed by the company he had been in their employment for twenty-three years. In 1955 he was appointed manager of a branch which had been "running down for some time" and was finally closed by his employers.

Transferred to another Branch

On first moving to the branch his aunt with whom he lived was unwilling to change her residence and he was therefore obliged to leave his wife and daughter to look after the aunt while he "lived in digs for eighteen months until the aunt changed her mind. He then purchased a house into which the family moved and some five months later the aunt died and at the same time the branch of which he was manager closed down. He was then transferred to another branch and experienced considerable financial loss on the sale of his house and the purchase of another one. He said "during that time I was subjected to considerable strain due to the unsettling effect of being apart from my family for so long, through the financial problems arising

out of my house purchase and through the disappointment of having been appointed manager of a branch which was due to be closed." In addition he had been in his new house for only a short while before it appeared there were defects in its construction which involved civil litigation and further expense and worry. During the four years he was manager the turnover at the shop rose approximately 25 per cent. It was during that time he misappropriated the sums of money, most of which was spent on household effects. It was always his intention to repay, but as the amount increased he found he was unable to do so immediately. Prior to the charge being heard by the court he had obtained other employment. As a result of his imprisonment his wife was obliged to obtain employment, the house had to be sold and his wife and daughter were living with friends. Until the charge of embezzlement he had not been in trouble of any kind. After cross-examination by Mr. Castle the Committee retired to consider the case. On resumption the chairman said that the nature of the conviction rendered the pharmacist unsuitable to remain on the register but the Committee had heard what had been said about his previous work, and the high standard he maintained as a pharmacist, and taking his very excellent record into consideration the Committee had come to the conclusion that this was not a case in which they should direct that his name should be removed from the register. The chairman added, "therefore they hope that you will be able, when you come out of prison, to get on your feet again.

Second Case

The second case considered by the Committee concerned Thomas Arthur Rannie, 68 High Road, Byfleet, Surrey, in respect of whom information had been received from which it appeared that he was convicted at the Woking magistrates' court on August 10 of having illegally sold phenmetrazine contained in Preludin tablets during November and December 1960, each sale not having been made on and in accordance with a prescription, and for which he was fined £15 together with £10 10s. costs; and that on "diverse dates between April 19, 1960, and July 10, 1960, he sold phenmetrazine not on and in accordance with a medical prescription.

Mr. Rannie attended the inquiry, accompanied by Mr. Andrew Leggatt, counsel, instructed by Lamartine Yates and Lacey (solicitors). Mr. A. C. Castle (solicitor) appeared in order to place the facts before the Committee. After giving the details, Mr. Castle said that Mr. Rannie was interviewed by Mr. Roberts (chief inspector, Pharmaceutical Society) on more than one occasion, and at first Mr. Rannie denied that he had supplied the tablets. "Of course, obviously Mr. Rannie knew that he had done wrong, and he did make efforts to try to cover up his

position. He did it by himself producing to Mr. Roberts invoices from the wholesalers which only showed very small quantities bought by him from the wholesalers. But subsequently the wholesalers were visited and copies of all Mr. Rannie's invoices obtained, the ones he had not produced to Mr. Roberts, showing that he had purchased considerable quantities."

When Mr. Rannie was examined by Mr. Leggatt he told the Committee that the lady referred to in the proceedings was a good customer who always seemed to have plenty of money to spend. He could not recall when she first asked for Preludin tablets, but it was before they were controlled legally.

After considering the evidence the chairman stated that the Committee had taken account of the fact that the first supplies of the drug to the lady were made at a time when it was not contrary to the law of the land. "But the fact remains that you continued to supply the drug after the law had been changed," and consequently "the Committee take the view that a conviction of selling such drugs knowing them to be potentially habit-forming is a conviction which renders a pharmacist liable to be removed from the Register,

"No Mitigating Circumstances"

In dealing with your case the Committee deal with it entirely on the basis of the conviction. We are not going to punish you for any additional offence of misconduct, although misconduct we have found it to be. That being so, we look to sec if there are any mitigating circumstances, and we have, I am sorry to tell you, come to the conclusion that in this case there are no adequate mitigating circumstances. those circumstances the Committee feel that they have no alternative but to direct the Registrar to remove your name from the Register." Sir Green-wood Ormrod continued: "But I do not intend just to leave it there, because we realise that the law changed while you were in the midst of supplying these drugs to this lady; and I should also like to say at once that we have not taken into account any question of the quantities you supplied. We have no evidence of the quantities. Nor have we taken into account any pos-sible effect on this lady of the drugs she took. In those circumstances it is, I think, right that I should say that it is open to you to apply to be reinstated on the Register within a reasonable time, and, all things being well in the meanwhile, the Committee would take a favourable view of your application. But the Committee regard the offence which you committed, and of which you were convicted, as of such gravity that they cannot overlook it in the first place. Therefore we feel bound to give the direction which I have indicated. I should tell you that you have three months in which to enter an appeal before the removal. takes place.



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Standards for Soft Drinks

PROPOSALS for new regulations that the Minister of Agriculture, Fisheries and Food intends to make jointly with the Minister of Health to replace the existing Food Standards (Soft Drinks) Order 1953 have been issued.

The proposals prescribe standards of composition for some soft drinks made from citrus fruits or juice from citrus fruits. The minimum "added sugar requirements" are increased to $4\frac{1}{2}$ lb. per 10 gall.; the maximum permitted quantity of saccharin is to be reduced to gr. 56 per 10 gall. for soft drinks consumed without dilution. The standards in respect of soft drinks for consumption after dilution are $22\frac{1}{2}$ lb. of added sugar and gr. 280 of saccharin per 10 gall.

The proposals also require that, where soft drinks contain saccharin, that must be declared on the label. It will be an offence to sell "any soft drink being a flavoured carbonated drink" in a container bearing a label on which any word or pictorial device suggestive of any citrus fruit is used unless the label also bears a word comprising the name of the citrus fruit suggested by the device, followed by the suffix "ade."

Labelling requirements must be provided in dark block type upon a light coloured ground or in light type upon a dark coloured ground and the type used must not be less than $\frac{1}{8}$ in, in height or a quarter of the size of the largest letters used in the label, whichever is the larger. It will be an offence to add to any soft drink any acid except citric, tartaric, malic, lactic, ascorbic or nicotinic, or, to soft drinks other than fruit squashes and comminuted drinks, acetic or phosphoric acids. The new proposals arise from the report published by the Food Standards Committee in 1959 (see C. & D., February 28, 1959, p. 228) and the representations subsequently received from sections of the soft drinks industry.

The proposed new regulations do not give effect to all the recommendations of the Food Standards Committee. For example, the recommendation that the use of saccharin in soft drinks should be prohibited has not been adopted. The recommendation that nutritional claims based on the carbohydrate content of some soft drinks should be prohibited has not been given effect in the present proposals, but it is understood that the Food Standards Committee is being asked to consider the whole question of energy claims as part of its review of the labelling of Food Order. Comments on the proposed regulations should reach the appropriate Ministry before December 8. It is evident that the sharp reactions

of some sections of the soft-drinks industry to the original Food Standards Committee's report (see C.&D., March 7, 1959, p. 265) have caused the Ministers to avoid implementing the more extreme recommendations of the Committee. As we stated at the time, the Food Standards Committee then "dropped a stone into a pool and created ripples that would not soon subside." The new proposals are likely to be followed by additional controls, for the ripples are likely to be in evidence for some time to come.

New Controls Over Trade Effluents

THE Rivers (Prevention of Pollution) Act, 1961, which comes into effect on September 27, makes important changes in the law relating to the discharge of trade and sewage effluents into rivers.

Under the 1951 Act any new (i.e. post-1951) discharges into rivers require the consent of the river board, but pre-1951 discharges do not. Prosecutions may be instituted for discharging poisonous, noxious or polluting matter, but none of those terms is defined. The new Act, which, following a recommendation of the trade effluents sub-committee of the Minister's Central Advisory Water Committee, provides that pre-1951 discharges should be subjected to the same control as others begun since that time. By an appointed day, which the Minister is to fix by Order (he cannot make it earlier than September 1962, but intends that it shall be as early as possible after that date), persons responsible for discharges must apply to the river board for consent to continue them, Once an application has been made the applicant is protected against prosecution until it has been determined. The river board may attach conditions to its consent, and the applicant then has three months in which he may appeal to the Minister against them. The new control does not apply to tidal estuaries, except for a small number of tidal waters to which the pollution provisions of the 1951 Act were extended.

The Minister of Housing and Local Government has sent to river boards and other interested bodies a circular explaining the effect of the 1961 Act. The circular lays emphasis on the view expressed by the trade effluents subcommittee that the new powers should be directed towards a gradual and carefully phased improvement that would take account of what was reasonable and practicable. It points out that the Act makes special provisions for the issue of temporary consents and for their subsequent review and variation.

RECENT RESEARCH

EFFECT OF FIBRES ON BENZALKONIUM

RESEARCH has shown that organic matter and fabrics are likely to adversely influence the bactericidal activity of surfactant detergents. From the University of Alberta, Canada, Myers and Lefebre report (Canad. pharm. J., 1961. 94. 55) a study of the effect of cotton and nylon fibres on aqueous and alcoholic solutions of benzalkonium chloride, using Staphylococcus aureus as the test organism. Under the conditions of the test, the presence of only 4 per cent. of cotton lengthened substantially the extinction times of 1 in 10,000 and 1 in 5,000 aqueous solutions, the degree of inhibition appearing to depend on the size of inoculum. Increasing the percentage of fibre further prolonged survival. 1 in 1,000 aqueous or alcoholic solutions were not affected by amounts of cotton up to 4'8 per cent. Nylon fibre occupying 5 per cent. of the test medium did not influence the activity of 1 in 1,000 or 1 in 5,000 aqueous solutions. It is recommended by the authors that, for disinfection of skin, gloves and sponges, a 1 in 750 solution (rather than 1 in 1,000) should be used to allow for adsorption of the bactericide.

GENERAL PRACTICE OF PHARMACY

Plea for "some real thinking" at Branch level

N other words, the homework had not been adequately done," said Mr. H. S. Grainger (president) at a meeting of the Council of the Pharmaceutical Society in London on October 3-4. He was speaking on the professional session of the British Pharmaceutical Conference at Portsmouth when the paper on the general practice of pharmacy was read by Mr. F. W. Adams and referring especially to the discussion which, although at times vigorous, "was not as well informed as one might have hoped. He did not think that the fault could be laid at the door of the conference organisers because the papers were out in time to allow people to study them. It was, of course, only the beginning of a process. The matter had been aired and it was hoped that branches would get down to some real thinking on the matter, and that Council would have an opportunity later to formulate policy, and to give a lead on the basis of the discussion. He was grateful to all those in Portsmouth who helped to organise the Conference, to the vice-president and members of Council who graciously assisted his wife and himself during the Conference week.

" An Excellent Basic Document"

MR. A. R. G. CHAMINGS referred to the paper on the general practice of pharmacy, and said that from a discussion which he had the previous week in Sheffield with pharmacists, it was clear that they thought the paper was an excellent basic document. It was also suggested that it would need the whole of the winter session to discuss it effectively, and it was hoped that branches would have several months in which to digest the paper and to submit their views.

MR. J. C. BLOOMFIELD thanked the president for his kind references to the organisation of the Portsmouth Conference. It was, of course, due to team work and his colleagues would appreciate the views that had been expressed.

At the beginning of the meeting MR. GRAINGER extended a cordial welcome to Dr. Yves Clément, secretary-general of L'Ordre National des Pharmaciens de France, the body in France corresponding to the Society.

MR. C. W. MAPLETHORPE presented the minutes of the Education Committee. It was noted that the following research awards had been recommended and the applicants notified on the authority of the president: Allen and Hanbury Fellowships: David James Geler Davies, Llandeilo; Harold Fenton, London. Lewis Edwards Memorial Scholarship: Calum Brechin Macfarlane, Dundee. Pharmaceutical Society Research Scholarships: Michael Anthony Beaven, London; Donald Stevenson McIntosh, Glasgow. Rammell Studentship: Mervyn Mitchard, London.

The Committee noted that a letter had been received from Mr. H. Fenton, which stated that he would be unable to accept the Allen and Hanbury Research Fellowship as he had been awarded a Medical Research Council grant.

The minutes of the meeting of the Educational Grants Committeee revealed that thirty-one applications from pharmacists and students were considered and eighteen grants recommended, totalling £4.533.

The Committee recommended that a further grant of £1,000 be made to the School of Pharmacy, Royal College of Science and Technology, Glasgow, to continue research in tissue culture technique; that a grant of £1,000 for general purposes be made to the School of Pharmacy, City of Birmingham College of Advanced Technology; that a grant of £1,000 for general purposes be made to the School of Pharmacy, Bristol College of Science and Technology; that a grant of £1,000 for general purposes be made to the Pharmacy Department, Heriot-Watt College, Edinburgh, and that a grant of £1,000 for general purposes be made to

the Department of Pharmacy, City of Liverpool College of Technology. It was recommended that the Umney Memorial Prize 1961, be awarded to Christine Marian Pearson, Leicester.

The Committee was reminded that an applicant who had the requirements for registration as a student with the exception only of one of the required subjects at advanced level might apply for permission to commence a period of practical training. Commenting on the minute, Mr. MAPLE-THORPE said that the number of people taking advantage of the concession was growing, and he desired to make a further report on the situation at the next meeting, when there was further information concerning the number of students at each of the schools of pharmacy. Mr. M. JACKSON asked whether the people granted the concession did in fact pass the examination. Mr. MAPLETHORPE replied that the secretary had asked for detailed information from the schools of pharmacy, and it was hoped to be able to give a further report at the next meeting of the Council. It was reported that the Society had been invited to comment on a proposal that regional careers conventions for employers and careers masters and mistresses shou'd be held at Training Colleges in the north-east and south-west during the half-term holiday in the spring term; the centres suggested by the National Union of Teachers being Leeds and Cardiff. Youth Employment officers would be asked to participate and time would be made available for teachers to discuss their problems in presenting careers advice to pupils. It was recommended that a reply be sent expressing interest but asking for further particulars when final arrangements have been made.

It was reported that sixty candidates entered for the Entrance Examination held July 1961 (twenty-three in England and Wales, thirty-seven in Scotland). Of these thirty-two entered in three subjects, two in two subjects and twenty-six in one subject. Mr. Maplethorpe said that in view of the small number of entrants, it would be necessary to review the whole question.

It was reported that discussions had been held with officials of the Ministry of Education and preliminary arrangements made for the biennial vacational course for teachers to be held Easter 1962.

In accordance with the procedure outlined in Byelaws Section XXVII, the draft Byelaws to provide for the registration of graduates in pharmacy and the increased registration fee were published in the Society's journal, July 22, 1961. By September 23, i.e. the required period of sixty days, no comments or observations had been received from the membership. It was recommended that the alterations be confirmed and submitted to the Privy Council for confirmation and approval.

Change in Benevolent Fund Rules

Mr. T. HESELTINE presented the minutes of the Benevolent Fund and War Aid Committee. It was recommended that paragraphs 7 and 8 of the regulations of the Benevolent Fund be replaced by the following:—

7. At the November meeting of the Benevolent Fund Committee consideration shall be given to the election of annuitants by the Council the following December. The number of annuitants to be elected and the date of the Council meeting at which the election will take place shall be made known in the Pharmaceutical Journal.

8. Every candidate for election as an annuitant must be at least fifty years of age and will normally have been in receipt of assistance from the Benevolent Fund.

THE SECRETARY reported that legacies had been received for the benefit of the Benevolent Fund from the estates of the following: Robert Dickson, Glasgow, £1,400 1s. 11d.;

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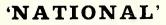
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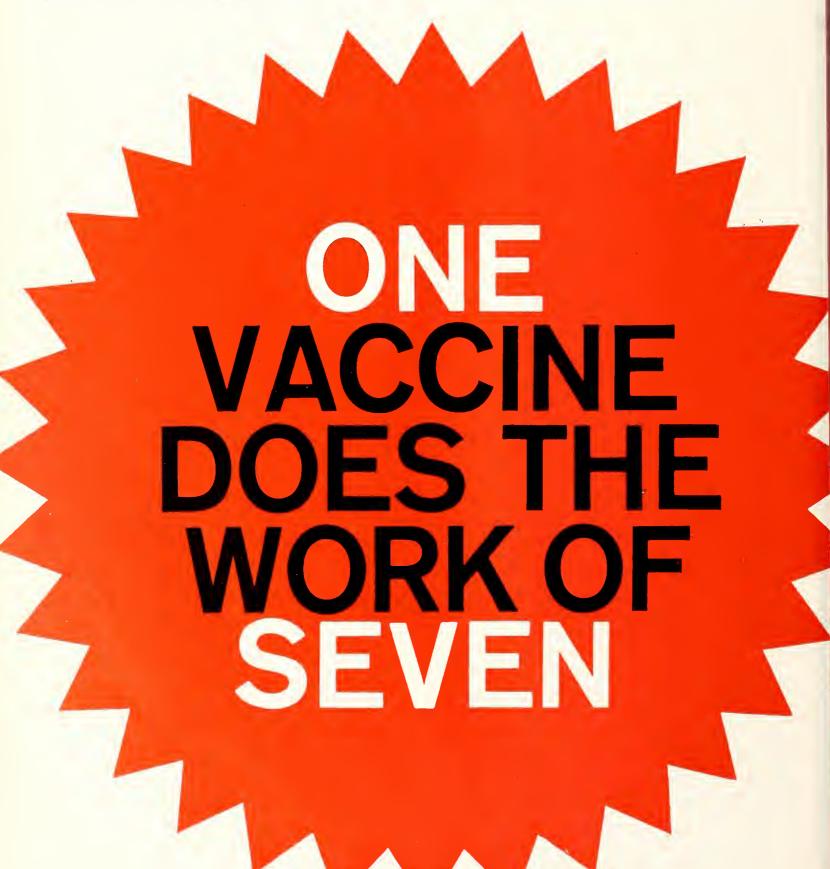
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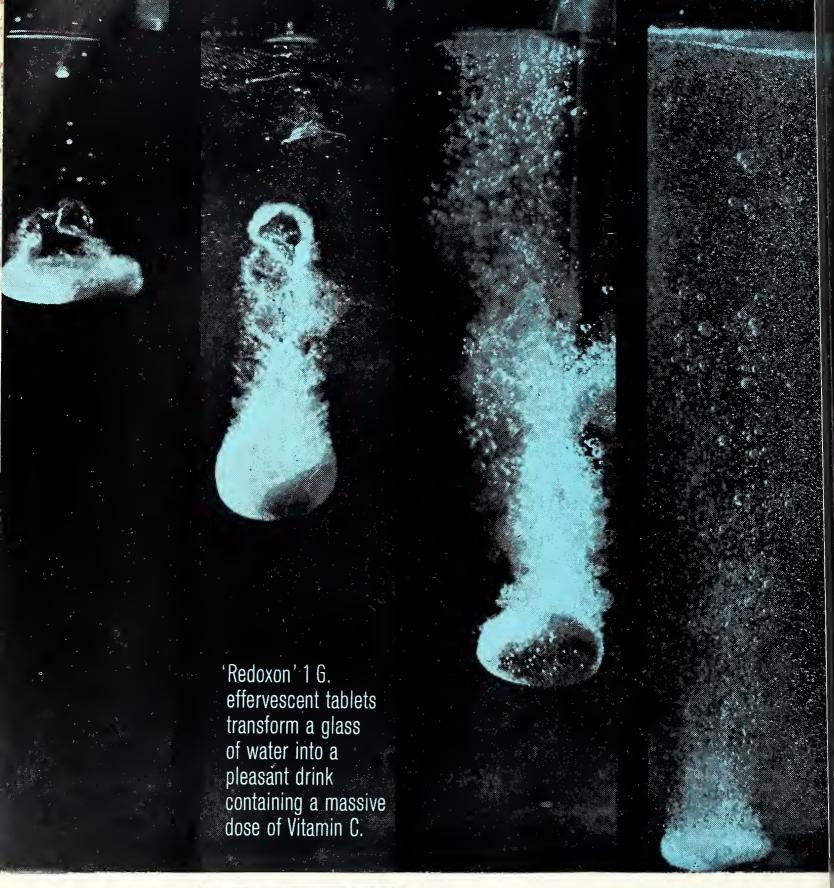
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Frederick G. Wells, London, W.7, £100; Edward N. Owen, Upminster Common, £100. It was also reported that the Committee had received several letters of appreciation from the Benevolent Fund beneficiaries, a student, guests at Birdsgrove House and from the Governors of Reeds School and Royal Wanstead School.

It was reported that a further statement had been sent on behalf of the National Pharmaceutical Union, the Contractors' Committee and the Society to the Minister of Health concerning the National Health Service prescription charge and his reply was awaited. The Committee received a report on correspondence between the Society and the Editor of *The People* and also the British Medical Association regarding the article entitled "Don't Swallow This One." It was agreed that no further action be taken.

It was reported that during July and August the Society's inspectors had visited the premises of 2,037 authorised sellers and 173 listed sellers of poisons, and 124 drug stores. Agents had visited 1,033 premises of drug stores, grocers and similar traders. Thirty-three cases of alleged infringements of the Pharmacy Acts 1933 were considered and appropriate action taken.

It was reported that in accordance with the procedure outlined in Byelaws Section XXVII, the draft altered byelaws to provide for recorded delivery of certain postal communications was published in the Society's journal. No comments or observations had been received from the membership. It was recommended that the alterations be confirmed. The minutes of the Committee were received and the recommendations adopted.

Pharmaceutical Society of Northern Ireland

MONTHLY MEETING OF COUNCIL

HE possibility that admission to the register of pharmaceutical chemists may soon be only by means of a university degree was expressed by THE PRESIDENT of the Pharmaceutical Society of Northern Ireland (Mr. A. Templeton) at the annual meeting of the Society at 73

University Street, Belfast, 7, on October 2.

MR. TEMPLETON said that this year new regulations governing scholarships at the Queen's University, Belfast, had been introduced. He understood that the number of candidates enrolled to study for the degree of pharmaceutics was in the region of seventeen. That was almost double last year's figure and exceeded the number of students registered with the Society. The number of names on the register had increased slightly and that of apprentices decreased. The number of licences issued had risen very slightly and he hoped the peak had been reached. "Perhaps we can look forward to a reduction in the number of shops and an increase in the number of employees in each," he commented.

Better Results in New Examination

Referring to the examination results, Mr. Templeton said it was interesting to note the better performances of students under the new regulations. The Council was concerned at the repeated failure of so many old-syllabus candidates. It was proposed to provide new accommodation at Belfast College of Technology and Mr. N. C. Cooper (a member of the Council and chairman of the Education Committee) was giving valuable assistance.

It was reported that the display at the Commonwealth Technical Training Week careers exhibition in Belfast had

been well manned.

Mr. Templeton began his address by saying that the year just passed had taken its melancholy toll but not to the same extent as last year. Since the last annual meeting twelve members had died, including Mr. Jack Caldwell, the immediate past-president. He had been a very able member of the Council and "it was a great blow to us all when he passed away," Mr. Templeton said, "Our deepest sympathy goes out to his wife and children."

Others who had died during the year were Mrs. L. K. Leslie and Messrs. R. J. Hynds, R. Kerr, W. R. McNabb, R. Maxwell, J. Meeban, J. F. O'Donnell, F. J. L. Regan, A. Steed, W. R. Stinson and C. L. J. Taylor. "Some of these names have been well known all over Northern Ireland," Mr. Templeton continued. "Others have pursued their profession quietly." He added that he was delighted to see Mr. H. W. Gamble, O.B.E., restored to health.

Two new members of Council had been co-opted during

the year—Messrs. B. Flatley and A. T. Hardy.

Mr. Templeton thanked Mr. J. N. Patterson, of the Ministry of Home Affairs, for the talks he had given throughout the Province on the changes in the poisons legislation introduced on October 1, 1960. He also thanked

Mr. G. E. McIlhagger (a member of the Council) for preparing a list of the preparations affected by the legislation. He added that there was a possibility that a new Poisons Guide might be published soon.

Mr. Templeton told the meeting that the Council had been discussing the possibility of building a lecture hall. An architect had been consulted and a decision would be

made fairly soon.

Turning to the C. W. Young Fund, Mr. Templeton said the response had been good, £3,130 having been subscribed. He congratulated the members of the committee on their work.

Mr. Templeton also congratulated the House Committee, particularly Dr. R. G. R. Bacon and Mr. Robert Matthews Watson, on the decorative transformation effected inside and outside the building. He thanked the members of Council for their co-operation and support, which had made his year of office a pleasant one, and Mr. W. Gorman, whom he described as "an able and tactful secretary."

Six pharmaceutical chemist representatives on the Council—Messrs. H. G. Campbell, S. E. Campbell, J. Kerr, G. E. McIlhagger, W. C. Tate and A. Templeton—retired by rotation and offered themselves for re-election. There being no other nominations, they were returned unopposed.

The registered druggist representative on the Council, Mr. R. M. Watson, also retired and offered himself for reelection. There being no other nomination, he was returned unopposed.

Financial Statement

The financial statement, presented by THE TREASURER (Mr. R. M. Watson) and showing income at £7,246 and expenditure £8,034, was adopted. Mr. Watson said that, taking into account a further fall in examination fees, there might be a small credit balance at the end of next year.

At question time, MR. G. E. McIlhagger said everyone who had an apprentice should make their training a prim-

ary consideration.

He also said that pharmacists might find outlets in sterilisation services in view of the new development in hospitals.

Several speakers commented on the CHEMIST AND DRUG-GIST and said it was providing pharmacists with an outstanding service, especially with the Quarterly Price List, which was a very valuable item.

Apologies for absence from the meeting were received from Messrs. W. J. Thornton, H. G. Campbell, N. C. Cooper, M.Sc., J. Kerr, J. A. McRoberts, H. F. Moore, J. D. Morrison and W. J. Rankin.

MEDICAL ATTENTION AND PRIVATE ENTERPRISE: Obviously any man who believes it is unnecessary for the poor and the aged to go without medical attention in the sacred cause of freedom and private enterprise will look to countries where some social progress has been made—A U.S. correspondent in *The Times*.

GUIDE TO NEW MEDICAMENTS

Information about proprietary products supplied principally on prescription. Reprints on perforated gummed paper for affixing to index cards are obtainable from the Editor. Notes on the products are given on p. 432.

THE CHEMIST AND DRUGGIST Guide to New Medicaments, October 14, 1961

CATRAGEN vaccine

Manufacturer: The Wright-Fleming Institute of Microbiology, St. Mary's Hospital Medical School, London, W.2. DISTRIBUTOR: Beecham Research Laboratories, Ltd., Great West Road, Brentford, Middlesex.

DESCRIPTION: Catarrh vaccine containing 250 million H. influenzæ, 250 million Strep. pneumoniæ, 50 million N. catarrhalis, 50 million K. pneumoniæ and 25 million streptococci per mil.

INDICATIONS: For prevention and treatment of catarrh and colds. Dosage: Prophylactic, 0.25, 0.5 and 1 mil at intervals of 7-10 days; additional doses of 0.1 mil and 0.35 mil in very susceptible cases. Final dose may be repeated at monthly intervals. Therapeutic, 0.1 mil increased up to 0.5 or 1 mil, repeated every 2-5 days.

How Supplied: In ampoule of 1 mil, or as graded doses in set of three (0.25, 0.5 and 1 mil) or six (0.1, 0.25, 0.35, 0.5, 0.75 and 1 mil) and multidose vial of 10 mils.

SUPPLY RESTRICTIONS: Therapeutic Substances Act.

Notes: Retains its potency for 3 years if stored in the dark at 5-15° C.

FIRST 1SSUED: July 1961.

THE CHEMIST AND DRUGGIST Guide to New Medicaments, October 14, 1961

PHENO-CITRAIN ointments 1 and 2

Manufacturer: Whaley Pharmaceuticals, 7 Sheep Street, Rugby, Warwicks.

Description: Topical preparations containing 0.47 per cent, of salicylic acid, 0.09 per cent, of resorcin, 0.28 per cent, of chlorbutol, 0.16 per cent, of methyl salicylate, 0.19 per cent, of phenol, 0.38 per cent, of benzocaine, 0.04 per cent, of thymol and 0.23 per cent, of citral, No. 2 ointment also contains zinc morrhuate (1 per cent, of cod-liver oil and 2.2 per cent of zinc oxide).

Indications: Varicose ulcers; inflammatory dermatoses.

METHOD OF USE: Apply once or twice a day and cover with a sterile dressing.

How Supplied: In jars of 2 oz. Supply Restrictions: P.I. First Issued: July 1961.

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TRIGEN vaccines

MANUFACTURER: The Wright-Fleming Institute of Microbiology, St. Mary's Hospital Medical School, London, W.2. DISTRIBUTOR: Beecham Research Laboratories, Ltd., Great West Road, Brentford, Middlesex.

Description: Diphtheria-tetanus-pertussis vaccines (DTP/Vac) containing 30 Lf units of purified diphtheria toxoid, 5 Lf units of purified tetanus toxoid and 20,000 million B. Pertussis in 1 mil (full volume) or 0.5 mil (half volume).

INDICATIONS: For combined immunisation against diphtheria, tetanus and pertussis.

Dosage: Three doses of 1 mil (full volume) or 0.5 mil (half-volume) by deep subcutaneous or intramuscular injection, at intervals of 4-6 weeks. A fourth (booster) dose may be given 12 months later, See manufacturer's literature also.

PRECAUTIONS: Trial dose of 0.1 mil should be given to infants suffering from asthma or allergic dermatitis, or where there is a family history of allergy.

How Supplied: Full volume preparation, in ampoule of 1 mil and multidose vial of 10 mils. Half volume (double concentration) preparation, in ampoule of 0.5 mil and multidose vial of 5 mils.

SUPPLY RESTRICTIONS: Therapeutic Substances Act.

Notes: Retains its potency for 18 months if stored in the dark at 5-15° C.

FIRST ISSUED: July 1961, Replaces card on DIPHTHERIA-TETANUS-PERTUSSIS VACCINE.

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DULCOLAX children's suppositories

Manufacturer: Boehringer Ingelheim division, Pfizer, Ltd., Sandwich, Kent.

DESCRIPTION: Individually foil wrapped suppositories, each containing 5 mgm. of bisacodyl in a wax base. Laxative.

INDICATIONS: Constipation. Bowel clearance prior to radiology, and pre- and post-operatively.

Dosage: One suppository inserted as high as possible in the rectum. A motion will be produced within a few minutes to one hour.

How Supplied: In box of six. First Issued: September 1961.

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FLUGEN vaccine

Manufacturer: The Wright-Fleming Institute of Microbiology, St. Mary's Hospital Medical School, London, W.2. DISTRIBUTOR: Beecham Research Laboratories, Ltd., Great West Road, Brentford, Middlesex.

DESCRIPTION: Influenza virus vaccine containing equal quantities of activated virus A/England/1/61 and B/England/1/59, having a potency of 16,000 hæmagglutinating units per mil.

INDICATIONS: For the prevention of viral influenza. May be given at any time, even during an epidemic.

CONTRAINDICATIONS: Persons allergic to egg and chicken protein.

Dosage: 1 mil by deep subcutaneous injection in the late autumn. For "special risk" patients a booster dose of I mil is recommended.

How Supplied: In ampoule of 1 mil (single or set of six) and multidose vial of 10 mils.

SUPPLY RESTRICTIONS: Therapeutic Substances Act.

Notes: Retains its potency for 18 months if stored in the dark at 2-10° C.

First 1ssued: July 1961.

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PREDSOL spray

Manufacturer: Glaxo Laboratories, Ltd., Greenford, Middlesex. Description: An aerosol spray containing 12.5 mgm. of prednisolone disodium phosphate.

INDICATIONS: Allergic eczema, food eczema, infantile eczema; contact dermatitis; anal and vulvar pruritis; neurodermatitis, seborrhœic dermatitis.

METHOD OF USE: Spray over the affected area for 1-2 seconds from a distance of 6 inches, three times a day initially, then less often as the condition recedes.

PRECAUTIONS: Not to be inhaled; keep away from the eyes.

How Supplied: In pressurised container of 30 mils.

SUPPLY RESTRICTIONS: Therapeutic Substances Act.

FIRST ISSUED: May 1961.

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PREDSOL-N spray

MANUFACTURER: Glaxo Laboratories, Ltd., Greenford, Middlesex. Description: An ærosol spray containing 12.5 mgm. of prednisolone disodium phosphate and 50 mgm. of neomycin sulphate.

INDICATIONS: As for *Predsol spray* when caused, complicated or threatened by bacterial infection.

METHOD OF USE: Spray over the affected area for 1-2 seconds from a distance of 6 inches, three times a day initially, then less often as the condition recedes.

PRECAUTIONS: Not to be inhaled; keep away from the eyes.

How Supplied: In pressurised container of 30 mils.

SUPPLY RESTRICTIONS: Therapeutic Substances Act.

FIRST ISSUED: May 1961.

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JECTOFER injection

Manufacturer: Astra-Hewlett, Ltd., King George's Avenue, Watford, Herts.

DESCRIPTION: Sterile dark-brown solution containing an ironsorbitol-citric acid complex in a neutral, isotonic solution (providing 100 mgm. of clemental iron in 2 mils). Hæmatinic.

INDICATIONS: Iron deficiency anæmias that do not respond to oral iron, or where oral iron is contraindicated.

CONTRAINDICATIONS: Anæmias associated with leukæmia or bone marrow depression; serious liver dysfunction; anæmias accompanying chronic infections.

Dosage: 1.5 mgm. of elemental iron per kilo of body weight daily, by deep intramuscular injection.

How Supplied: 2-mil ampoules in boxes of five, ten and fifty. First 1ssued: October 1961.

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DUPHASTON tablets

Manufacturer: The Crookes Laboratories, Ltd., Gorst Road, Park Royal, London, N.W.10.

DESCRIPTION: White tablets (inscribed "D" on one face), each containing 5 mgm. of isopregnenone. Synthetic progestational hormone.

INDICATIONS: Dysmenorrhea, primary and secondary amenorrhea, postponement of menstruation, threatened and habitual

Dosage: One to four tablets a day, according to the condition being treated.

How Supplied: In tube of twenty and bottle of 100.

SUPPLY RESTRICTIONS: P.I, S.4.B. FIRST 1SSUED: August 1961.

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INFONUTROL injection

MANUFACTURER: AB. Astra, Sweden, DISTRIBUTOR: Astra-Hewlett, Ltd., King George's Avenue, Watford, Herts.

DESCRIPTION: Sterile white emulsion containing 15 per cent, of cottonseed oil and 4 per cent, of dextrose with purified emulsifying agents; provides 1,600 calories per litre.

INDICATIONS: For nutrition of patients who are unable to ingest adequate food orally, particularly if this inability is likely to be of long duration.

Dosage: Up to 1,000 mils daily by intravenous drip.

Notes: Store in a refrigerator at 4-8° C. Do not freeze.

How Supplied: In transfusion bottles of 500 mils, with disposable giving set.

SUPPLY RESTRICTIONS: Available to hospitals only.

FIRST ISSUED: September 1961.

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PENBRITIN capsules

Manufacturer: Beecham Research Laboratories, Ltd., Great West Road, Brentford, Middlesex.

DESCRIPTION: Dual coloured black/red capsules, each containing 250 mgm. of 6[D(−)α-aminophenylacetamido] penicillanic acid. Antibiotic.

IND:CATIONS: Infections caused by Gram-positive and Gramnegative organisms; particularly infections of the respiratory, gastro-intestina! and urinary tracts.

CONTRAINDICATIONS: In penicillin-sensitive subjects.

Dosage: Gram-positive infections, 250 mgm. every 6 hours. Gram-negative infections, 500-750 mgm. every 8 hours. Urinary tract infections, 250-500 mgm. every 6 hours.

How Supplied: In canisters of twenty, 100 and 500.

SUPPLY RESTRICTIONS: Therapeutic Substances Act. Available to hospitals only.

First Issued: July 1961.

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DRAZINE tablets

Manufacturer: Smith & Nephew Pharmaceuticals, Ltd., Bessemer Road, Welwyn Garden City, Herts.

DESCRIPTION: White tablets (embossed "SNP"), each containing 5 mgm. of phenoxypropazine hydrogen maleate. Anti-depressant.

Indications: Mental depression.

CONTRAINDICATIONS: Liver disease, hypotension.

Dosage: Two tablets twice a day.

How Supplied: In bottles of 100 and 500.

SUPPLY RESTRICTIONS: Available to hospitals only.

Notes: Protect from light and heat. Avoid the use of cotton wool when dispensing.

First Issued: July 1961.

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VALOID suppositories

Manufacturer: Burroughs Wellcome & Co. (The Wellcome Foundation, Ltd.), 183 Euston Road, London, N.W.1.

Description: Suppositories, each containing 100 mgm. of cyclizine hydrochloride in 1-8 gm. of a hydrogenated fat base. Anti-nauseant, anti-emetic.

INDICATIONS: For preventing or treating drug-induced nausea and vomiting (especially from morphine and other narcotics), post-operative nausea and vomiting, motion sickness. Used when oral therapy or injection is impracticable or inconvenient.

DOSAGE: One to three inserted daily as required, (Plastic shells must be removed before use.)

How Supplied: In pack of ten. Supply Restrictions: P.1, S.7. First Issued: July 1961.

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VALOID pædiatric suppositories

Manufacturer: Burroughs Wellcome & Co. (The Wellcome Foundation, Ltd.), 183 Euston Road, London, N.W.1.

DESCRIPTION: Suppositories, each containing 50 mgm. of cyclizine hydrochloride in 1 gm. of a hydrogenated fat base. Anti-nauseant, anti-emetic.

INDICATIONS: As for Valoid suppositories.

Dosage: As for Valoid suppositories.

How Supplied: In pack of ten. Supply Restrictions: P.1, S.7.

First 1ssued: July 1961.

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SERENACE tablets and injection

Manufacturer: G. D. Searle & Co., Ltd., Lane End Road, High Wycombe, Bucks.

DESCRIPTION: White, scored *tablets* each containing 1.5 mgm. of haloperidol. Amber *ampoules*, each containing 5 mgm. in 1 mil. Anti-psychotic agent.

INDICATIONS: The major manifestations of psychotic illness, including schizophrenic symptoms, delusions, hallucinations and paranoia, mania and agitation.

Dosage: Tablets, High dosage: 6 mgm. daily, gradually reduced according to response; Low dosage: 0.75 mgm. daily, increased to twice a day after a few days and to four times a day after a further period. Maintenance dosage: 0.75-3 mgm. daily. Injection, 5 mgm., intramuscularly or intravenously, repeated every 6 hours until control is achieved, when oral therapy may be substituted.

PRECAUTIONS: Use with care in patients with lesions of the basal ganglia, including spastic cerebral syndromes of arteriosclerotic origin.

How Supplied: *Tablets* in bottles of fifty, 250 and 1,000. *Ampoules* in boxes of six and twenty-five.

SUPPLY RESTRICTIONS: Recommended on prescription only.

FIRST 1SSUED: September 1961.

NINETY-EIGHTH MEETING OF THE BRITISH PHARMACEUTICAL CONFERENCE, PORTSMOUTH, 1961

Science Sessions

(Concluded from The CHEMIST AND DRUGGIST, October 7, p. 406)

Two other papers were read at the morning session on September 19. The title of a paper read by Dr. J. N. GREEN was:—

Spectrophotometric Determination of Thalidomide in Body Fluids

J. N. GREEN and B. C. BENSON

AN ultra-violet spectrophotometric method has been evolved for the determination of thalidomide in blood, plasma or urine. Thalidomide is extracted from the sample with chloroform, and the drop in extinction measured when solutions are treated with alkali. This decrease is proportional to the concentration of thalidomide present. The method has been used to determine the amount of drug present in animal and human blood.

(From the Distillers Co. (Biochemicals), Ltd., Speke, Liverpool)

MR. D. A. ELVIDGE, Nottingham, asked if salicylic acid might have been present in the "blank" blood and Dr. GREEN replied that he was not absolutely certain—the blood was from a blood bank—but washing of the extract to remove any acid would not destroy the thalidomide. Dr. G. F. Somers, Liverpool, thought the important property of thalidomide was its lack of toxicity compared with barbiturates. Could a death resulting from overdose of a barbiturate plus thalidomide be attributed by experiment to either one of those? In reply, Dr. Green said that the spectrophotometric method at a particular wave length showed a drop in extinction for barbiturates but not for thalidomide. At another it showed a drop for the thalidomide and a rise for barbiturates. He thought the two substances could be distinguished fur-

ther by chromatography.

DR. T. D. WHITTET, London, challenged Dr. Somers' assertion regarding low toxicity of thalidomide. He said several cases of peripheral neuritis had resulted from prolonged therapy.

PROFESSOR A. WILSON, Liverpool, noted that there appeared little evidence of the fate of the substance in the body. Had the authors studied that aspect?

DR. GREEN said that its metabolism had not been studied. Only 1 per cent. of thalidomide appeared in urine 24 hours after oral administration.

hours after oral administration.

Professor G. Brownlee, London, wondered whether Dr. Green was satisfied that he had in fact been estimating thalidomide rather than a mixture of related breakdown products. The reply was that tests on the blood extract appeared to confirm its identity. In reply to Mr. A. R. Rogers, Brighton, Dr. Green said that good reproducibility of the assay results gave sufficient indication that the method was reliable.

DR. A. H. BECKETT, London, thought that so many suspect factors were present in the method that it would be difficult to gather information on the distribution of thalidomide in the body. The paper read by Mr. J. S. Foster, Glasgow, was entitled:—

Ion-exchange Chromatography on Alginic Acid

J. S. FOSTER and J. W. MURFIN

QUANTITATIVE separation of mixtures of organic bases into their components has been achieved by ion-exchange chromatography on alginic acid. This simplifies the routine control of nicotinamide and aneurine and pyridoxine hydrochlorides, when these are present in certain pharmaceutical pre-Whilst formaldehyde preparations. treatment of alginic acid had proved moderately successful, material thus prepared proved difficult to free from matter absorbing in the ultra-violet region of the spectrum. Prolonged use moreover tended to lead to disintegra-tion into "fines." An alternative means of preparing the acid was therefore used, by neutralising sodium alginate with hydrochloric acid.

(From the Standards Department, Boots Pure Drug Co., Ltd., Airdrie)

DR. G. E. FOSTER, Dartford, asked the source of the alginic acid. MR. FOSTER said it was normal commercial grade.

In reply to PROFESSOR SAID, United Arab Republic, he said that so far no work had been carried out using alginic acid for the separation of amphetamine from body fluids.

DR. A. H. BECKETT, London, asked if there was any batch-to-batch variation between samples of alginic acid. The author said he had no figures; only two batches of the acid had been prepared.

DR. F. FISH, Glasgow, thought the column might be capable of an infinite number of cycles. The author agreed, noting that occasional re-packing might be required.

MR. C. A. Johnson, Nottingham, agreeing, had not observed difficulty using the same sample of alginic acid daily for six weeks. He had not found a satisfactory method of grinding the acid, though. A rotary-blade mill tended to give a large proportion of "fines."

MR. FOSTER suggested that another type of mill might be found. Also the acid could possibly be precipitated in the degree of fineness required for packing. DR. W. MITCHELL, London, suggested that, to prevent swelling of the acid, alcohol should be used to dampen it before packing.

In reply to MR. D. A. ELVIDGE, Nottingham, who asked why estimation of whole capsules of vitamins by the method gave unsatisfactory results, MR. FOSTER said that the abnormally high aneurine figure obtained was possibly due to interference by degradation products of gelatin.

At the afternoon session on September 19 the first two papers were considered together. The one was read by MR. K. L. SMITH and the other by MR. F. W. WEBB.

Standardisation of Thyroid, B.P.

C. A. JOHNSON and K. L. SMITH

THE B.P. method for the standardisation of thyroid in terms of thyroxineiodine is based on the work of Harington and Randall (1929), who claimed that the iodine in combination as thyroxine is related to the biological activity. When applied to the standardisation of tablets the method has given high and variable results, which have been ascribed to the presence of lactose (Doery, 1945), and the B.P. 1958 introduced an acid washing procedure to eliminate the possible interference of this substance when used as excipient. Subsequently this step in the analysis was introduced for official thyroid powder, since most of the commercial products are obtained in too concentrated a form and are suitably diluted with lactose. This modification either for commercial thyroid powder or tablets has not given satisfactory results. Experiments showed that a hydrolysis product of lactose precipitates under the conditions of the assay and occludes inorganic iodide, thus producing a significant effect in estimation of "thyroxine-iodine" content. When the acid washing stage of the B.P. Addendum 1960 was included in further determinations, it was found that even with thyroid which contained no lactose the acid wash itself could give a low result. For standardisation of thyroid the U.S.P. relies on a determination of total "iodine in thyroid combination." This would be unaffected by the nature and amount of diluent present. To assess the validity of this, and to compare the results obtained with those from "thyroxine-iodine" determinations, three samples of undiluted thyroid powder from the glands of oxen, pig and sheep respectively were assayed by chemical and biological methods. The results illustrated a lack of relation not only between the biological assay figures and the results in determined the results in the r and thyroxine iodine determined chemically but also between the biological activity and the total iodine.

(From the Standards Department, Boots Pure Drug Co., Ltd., Notting-ham.)

Comparison of Biological and Chemical Assays of Thyroid

F. W. WEBB

The biological and chemical examination of thyroid samples has demonstrated the inadequacy of the B.P. assay, which is based upon the determination of so-called "thyroxine iodine." It is suggested that, in the absence of specific methods for determining thyroxine and tri-iodothyronine in thyroid, the chemical assay should be replaced by a biological assay. The mouse anoxia method has been shown to be suitable for this purpose. The potencies of samples of ox, pig and sheep thyroid assayed thus over the past three years are presented together with chemical data and clinical comments. The relative activities of the

thyroid constituents 3,5,3',5'-tetra-iodo-*l*-thyronine (*l*-thyroxine), 3,5,3'-tri-iodo-*l*-thyronine, 3,5-di-iodo-*l*-tyrosine and 3-monoiodo-*l*-tyrosine, as determined by the mouse anorexia method, are in good agreement with their reported clinical effectiveness.

(From the Wellcome Biological Control Laboratories, Dartford.)

The two authors having expressed differing points of view, THE CHAIRMAN asked if they had any comments to

make on one another's papers.

MR. SMITH thought that if the "mouse anorexia" biological assay were used, a much wider tolerance of potency should be applied than for the chemical method. MR. WEBB agreed on that point, "It is not a good assay—just the best of a very bad bunch." He endorsed a recent report that showed *I*-thyroxine unsuitable as a standard, MR. SMITH commented that, though there was a different result when *I*-thyroxine was taken as a standard, "there is no dissimilarity between the two slopes" [in the resultant graph].

DR. SOMERS, Liverpool, emphasised that, in the bioassay, all animals must be kept at a constant environmental temperature, because their basic metabolic rate was increased during the test. He asked why the tests were conducted with injected thyroid. MR. Webb replied that only 20 per cent. of thyroid was absorbed orally, of the amount absorbed by subcutaneous injection.

DR. FOSTER, Dartford, considered a reliable chemical method preferable. Paper chromatography might be used for qualitative detection of the ingredients precipitated in the assay. If those ingredients were all identified, said Dr. Foster, "then we would have the basis of a good assay." He had found that the B.P. assay, performed exactly as

stated, gave consistent results.

MR, C. A. JOHNSON, Nottingham, suggested that, in some ways, the doctor had carried out his own biological experiments by adjusting dosages of thyroid in accordance with the clinical response of his patients. In many cases they had found there was some agreement between chemical and bioassays, "but how do you know which cases are the trustworthy ones?" The inconsistent results sometimes obtained at Nottingham had been obtained even when closely adhering to the B.P. assay. One sample of thyroid regularly produced results that were 20 per cent.

DR. R. E. STUCKEY, London, considered that Mr. Webb's paper was a help towards the provision of a satisfactory biological assay, but he doubted if the mouse anorexia tests should be included in the B.P. Was it seriously suggested that the assay could be routinely done in view of the mice required?

MR. WEBB repeated that it was not a good assay but it was the best of the bunch. Regarding the availability of mice he said "We have mice... They don't notice the odd hundred or so that

are missing.'

DR. SOMERS referred to an acetonitrile toxicity test, and thought it might be useful to give consideration to the fact that if mice were treated with thyroxine they became much more susceptible to 5-hydroxy tryptophane. MR. C. A. Johnson, Nottingham, referred to Yenders' work and the papain

hydrolysis by hydrogen cyanide.

MR. E. I. Johnson, London, giving his experience in the Government laboratory, referred to the difficulties encountered in the official assay owing to the three scparate filtrations—difficulties that were not helping the correlation of the chemical and bioassays. He hoped that the thyroid assay would be retained in the British Pharmacopeia, if only to assist in problems of administration.

The next paper was read by MR. D. GANDERTON, London. It was on:—

Strength of Compressed Tablets

III. RELATION OF PARTICLE SIZE, BOND-ING AND CAPPING IN TABLETS OF SODIUM CHLORIDE, ASPIRIN AND HEXAMINE

E. SHOTTON and D. GANDERTON Sized fractions of sodium chloride, hexamine and coarse crystalline aspirin were separated, collected and compressed. Mean values of applied pressure, transmitted pressure and ejection force were obtained for the compression of six tablets of each size fraction at each pressure level. Each tablet was weighed, its dimensions measured, and finally the strength estimated using a crushing test. The mean particle size of each fraction was measured microscopically by taking the mean diameter of 800 particles. Some difficulty was encountered with hexamine because of the irregularity of shape and some aggregation. Examination of the fracture of the tablets revealed two types of failure. Where the interparticulate bond is strong, fracture occurs across the grains and the strength of tablet is a simple function of the particle size. If the interparticulate bond is weak, fracture occurs around the grain and particle size has little effect. A thin coating of stearic acid was used to weaken the interparticulate bond when the effect of grain size on strength disappeared or was reversed. It was found that capping can be reduced by weakening the interparticulate bond.

(From the department of pharmaceutics, School of Pharmacy, University of London)

DR. J. A. HERSEY, Eltham, thought the differences in results obtained during comparative crushing tests were within the limits of error of single commercial tests. MR. GANDERTON explained that, in his experiments, refined apparatus had been used, giving errors as low as 4-7 per cent. He told MR. D. STEPHENSON, Dartford, that the crushing test had been carried out within minutes of compression to eliminate any possible hardening of the tablet. Such hardening, if it were allowed to proceed, might be a result of junction growth within the compressed material.

MR. S. G. E. STEVENS, Welwyn Garden City, thought the effects of compression might depend partly on whether the crystals were spherical or angular. MR. GANDERTON said, on evidence of microscopic examination of various crystals, that this difference did not cause capping. Brittle failure of crystals during crushing was often replaced by plastic deformation during

compression.

MR. A. E. DAVIS, Nottingham, believed the authors' fundamental research was closely allied to practical problems. He was informed by Mr. Ganderton that no tests had been performed using starch instead of stearic acid to weaken the interparticulate bond

MR. GANDERTON added: "We hope that eventually we may be able to predict the behaviour of different tablets when compressed." He informed DR. H. D. C. RAPSON, Betchworth, that, for the purpose of the experiment, grain size had been taken as equivalent to particle size.

DR. J. E. CARLESS, London, asked which method of determining porosity had been used. MR. GANDERTON replied that it was arrived at from the density and the volume occupied after com-

pression.

Unfortunately the authors of the next paper were unable to be present and Dr. E. F. HERSANT read the paper. It described:—

A New Method for the Determination of Barbiturates

I. M. ROUSHDI, H. ABDINE and A. AYAD THE use of complexometric analysis for the determination of metal ions has suggested that this could usefully be applied to the assay of a barbiturate. The method depends on its precipitation with excess of a metallic salt, followed by estimation of this excess complexometrically. In one approach to the assay, the barbiturate was precipitated as the mercuric salt with mercuric perchlorate. Excess reagent was determined by Volhard's method (Pedley, 1950). Repetition showed that this method was reproducible only within 1 per cent. when applied to barbitone and barbitone sodium: the end point moreover was indistinct and easily over-stepped. Complexometric titration of the excess mercuric perchlorate was therefore investigated, using standard magnesium complexonate solution. Reproducible results were obtained, and the end points were sharp. Attempts were then made to use zinc as the precipitating ion instead of mercury. A sample of barbitone was found to contain 99 2 per cent, by the mercury method and 99.1 per cent, by the zinc method, compared with 99.8 per cent, by the B.P. method. (From the department of pharmaceutical chemistry, Faculty of Pharmacy, Alexandria University)

MR. C. A. JOHNSON, Nottingham, suggested that it would be useful if some mention were made of the effect of some common tablet excipients. Before the method could be accepted something would need to be known of the solubility of the zinc salts, and more about the zinc complex.

PROFESSOR F. SAID, United Arab Republic, said the only factor that governed the precipitation of the complex was the control of the ph. The matter of excipients had been considered. They did not form a complex with zinc. The nature of the zinc complex was being considered. The method should be applied to other barbiturates and the corresponding complexes investigated.

MR. C. A. JOHNSON said he had in mind magnesium stearate and stearic

acid, which might affect results . . "it needs to be ascertained practically."

The next paper was read by Mr. Co.

The next paper was read by MR. C. VICKERS, Its subject was:—

Flask Combustion Technique in Pharmaceutical Analysis

MERCURY-CONTAINING SUBSTANCES C. VICKERS and J. V. WILKINSON

A METHOD has been developed for the assay of mercury in organic samples using the flask combustion method followed by complexometric titration with a visual end point. The method has been applied to a wide range of mercury-containing materials used in pharmacy and agriculture.

(From the analytical development group, Standards Department, Boots Pure Drug Co., Ltd., Nottingham.)

DR. G. E. FOSTER, Dartford, asked what minimum content of mercury in an ointment could be assayed by the method, and MR. VICKERS said that, since publication of the paper, he had been able to reduce the original lowest figure of 5 per cent, to 1.5 per cent.

figure of 5 per cent. to 1.5 per cent.

MR. A. S. BEIDAS, Nottingham, asked if the method had been applied to formulations containing copper or other pesticides. The speaker replied it had not. Nor could he offer advantages in the assay over classical methods, except that the latter had aroused considerable controversy, and his own was rapid, accurate and reliable. This last point was endorsed by DR. W. MITCHELL, London, on the evidence of a recent assay of strong ointment of mercuric nitrate.

The first paper during the science session on Friday morning was the eighteenth paper and was read by Dr. A. F. CASEY.

4-Alkoxypiperidines Related to Reversed Esters of Pethidine

A. F. CASY and A. H. BECKETT

In reversed esters of pethidine the ester function at C(4) is important for analgesic activity as the corresponding alcohols are inactive. Since hydrolysis has been established as a major metabolic pathway in certain compounds, species differences in activity may, in part, arise from differences in enzyme hydrolysis rates. It follows that introduction of factors that hinder hydrolysis may result in esters that have high activity. A series of 4-alkoxypiperidines have been tested for their analgesic properties in mice and a number found to be more active than morphine. One of the more active members has been examined in detail and shown to be a true morphine-type analgesic.

(From the School of Pharmacy, Chelsea College of Science and Technology)

DR. A. H. BECKETT, London, coauthor of the paper and sole contributor to the ensuing discussion, said that the current search was for analgesics with reduced side-effects. The compounds investigated had a high therapeutic index, but it was probable that they were also highly addictive. "This means," said Dr. Beckett, "that we have not hit the jackpot yet."

The next paper was read by Dr. M. A. LEONARD. It was:—

Method for Determining Traces of Fluoride

C. A. JOHNSON and M. A. LEONARD A METHOD is described for the specific determination of trace quantities of fluoride. The procedure depends upon the solvent extraction and subsequent colorimetric measurement of the blue complex formed between fluoride and the cerous-alizarin complexan chelate. Concentrations of 0.25 to 7 µgm. of fluoride in 150 mils of water can be determined. The method has been shown to be applicable to distillates from strong acid and has been used for solid samples of low fluoride content. (From analytical development group, Standards Department, Boots Pure Drug Co., Ltd., Nottingham)

DR. G. E. FOSTER, Dartford, asked what was the upper limit of fluoride that could be accurately determined by the method. Dr. LEONARD said it was only applicable to small traces and was not suitable for use when the concentration was over 500 µ gm. in 100 mils. In reply to Mr. A. R. ROGERS, Brighton, DR. LEONARD said the coefficient of variation experienced was inherent in the scattering of the density readings. Dr. A. H. BECKETT asked: "Would not cyanide prove more potent than the anions so far used?" He thought the method could well be used to follow the metabolism of trifluoromethyl groups in the body. Dr. LEONARD disclosed that he had not tested the interference of cyanide in the solvent extration process, but said that in water there was little interference. MISS S. J. PATTERSON, London, wanted to know how serious were the discrepancies if the method was carried out at room temperature and if there were some means of desensitising the reaction, Had Dr. Leonard tried water-miscible solvents? Dr. LEONARD said temperature control was important. The extraction increased with decreasing temperatures. Probably the method of desensitising would be to increase the buffer concentration. He had not tried ethyl alcohol, but acetone did increase sensitivity.

The next paper was presented by DR. A. J. EVANS. It was concerned with:—

Entrainment and Flooding in Vertical Still-heads

A. J. EVANS, E. SHOTTON and D. TRAIN THE entrainment entering, and collected on, vertical still-heads from a boiling solution has been investigated. Entry increased gradually with increasing distillation rate until the Reynolds number of the vapour in the still head reached a value of about 10,000. At that point the rate of increase was much greater and accompanied by a greater rate of collection of the entrainment over all sections of the stillhead. The value of 10,000 for the Reynolds number was verified from the observations of others. The true flooding effect did not occur until distillation rates were much higher, when there was a sudden increase in the volume of liquid collected at the top of the still-head and a corresponding decrease in that collected at the bottom. Increasing the length of the still-head from 30 to 60 in. increased maximum collecting efficiency from about 96 to

99 per cent. Decontamination factors compared favourably with those obtained by other workers using more complex packed columns.

(From the department of pharmaceutics, School of Pharmacy, University of London)

DR. G. E. FOSTER, Dartford, "speaking as a non-expert," said he had assumed the system was in internal equilibrium, DR. EVANS replied that equilibrium was not complete — some condensation occurred on the walls of the still head and in the separator, but some droplets were carried through, as indicated by the fluorescein content of distillate from dyed water in the boiler. The decontamination factor was 10°. DR. D. TRAIN, co-author of the paper, added that, though liquid was still lost from the boiler, use of fluorescein indicated where it went.

Dr. H. D. C. RAPSON, Betchworth, found it difficult to understand why turbulence should be more apparent at the top of the column. He thought probably a pressure gradient down the still head would result in variation in the relationship between mass flow and velocity flow. Dr. Evans said that pressure drop was exceptionally small. The consideration was of a layer of vapour on the wall of the still-head rather than of the total vapour itself within the stillhead. Dr. Train added that assessment of turbulence involved three aspects: determination of the Reynolds number within the pipc; the degree of tur-bulence within a whirl and eddy (a radial factor was probably present to send droplets onto the tube walls); and an entrance factor, i.e., the means of getting the vapour into the tube.

In reply to a further question from Dr. Rapson, Dr. Evans said the phenomenon of turbulence had been investigated originally on non-compressible systems, but later had been applied to compressible ones also. The Reynolds number itself was a "very windy

figure.'

DR. RAPSON thought smaller droplets were more likely to be carried over than larger ones. DR. A. H. BECKETT endorsed the author's suggestion that possibly a surfactant or some other material might be added to the fluorescein in the boiler to give added indication of whether it was subsequently entrained or volatilised. DR. EVANS said that previous findings had shown large droplets (25-30 μ) more likely to be entrained, increasing at high distillation rates. Uplift of the droplets probably owed more to turbulence than to vapour velocity. Presence of a surfactant would affect the whole system of breakup of the droplets.

DR. WHITTET said that results of Dr. Evans' experiment confirmed his impressions that entrainment was not a serious cause of pyrogenic reaction. That was probably more a result of not using a clean still or freshly distilled water. Future tests might probably be carried out using pyrogen concentrates, a suggestion Dr. Evans endorsed. In reply to MR. J. H. OAKLEY, High Wycombe, he thought that the use of electrolytes as a sensitive test for fluoride, as mentioned in the previous paper, might have some detrimental effect on

the breakdown of droplets in the sys-

The twenty-first paper was read by DR. H. S. BEAN. It was on the subject of:-

Bacterial Populations in Phenol Solutions

PART II. INFLUENCE OF CELL-EXUDATE UPON SHAPE OF SURVIVOR-TIME CURVE

H. S. BEAN and V. WALTERS*

THE shape of time-survivor curves for E. eoli suspended in aqueous solutions of benzylchlorophenol depends on the concentration of the bactericide. In some concentrations the last survivors multiply unexpectedly. The death of the organisms is accompanied by release of cell-constituents. Growth occurred when E. eoli exudate was added to aqueous suspensions of E. coli. In its absence the organisms died. The numbers of viable organisms depended upon the concentration of the added cell exudate. The fate of the last survivors of a suspension of E. eoli in benzylchlorophenol solution was controlled by resuspending them in components of the reaction mixture. Removal of cell-exudate produced rapid death. Removal of bactericide led to multiplication of the organisms. The authors conclude that cell exudate constituted the nutrient subtrate for multiplication of last survivors in an initially bactericidal system. The paper discusses theories of disinfection and the influence of cell exudate upon the shape of time-survivor curves.

(From Chelsea Sehool of Pharmaey, Chelsea College of Seienee and Tech-

*Present Address: Nigerian College of Technology, Ibadan, Nigeria.

Dr. M. Harris, Birmingham, disagreed with the authors' findings. He had ascertained that coliform cells were able to store large molecules within the cells as reserve foodstuffs, and suggested that it was difficult to remove the phenol from the cell exudation. Dr. H. D. C. Rapson, Betchworth, suggested that the results in the paper invalidated Dr. Harris's argument, Dr. A. H. BECKETT declared that, contrary to Dr. Harris's views, it was not difficult to remove the phenol from the cell exudate. Work at Chelsea had confirmed that the exudate was a growth-motive material, and that phenols did affect the cytoplasmic membrane and increased cell permeability. Dr. HARRIS replied "obviously one of us has to repeat the

experiment using starved cells."

The last paper of the morning session was read by MR, D. V. CARTER, It

gave a method for:-

Assay of Enzyme Activity

D. V. CARTER and G. SYKES

paper describes a convenient means for estimating various enzymes quantitatively. Few examples are quoted but, provided suitable indicator substrates can be found, the range can be The procedure established extended. for one enzyme is applicable to others, subject only to the variation in sub-strate required and the different dilutions of the enzyme preparation necessary to obtain satisfactory responses. Thus the method is more convenient

and casier to manipulate than existing methods, including those official in the B.P. and U.S.P. The assay is quantita-

(From the mierobiology division, Standards Department, Boots Pure Drug Co., Ltd., Nottingham)

Dr. W. Anderson asked how the new assay fitted in with classical concepts of enzyme assay. Had synthetic substrates or a hæmoglobin substrate been tried? The reply was that, though the substrate was present "in considerable excess" during assay, that factor was common to both the test and the control (standard) samples. Best results were obtained at a lower pH than quoted for the B.P. assay. Synthetic substrates had not been tried; hæmoglobin gave good results, but tended to cause precipitation.

DR. G. E. FOSTER, Dartford, asked if the cascin used in the test had to be pure, and if results differed from those using the B.P. method. Also, was the method applicable to determinations of, for example, the diastatic value of malt extract? Mr. Carter replied that, so long as the same sample of casein was used for the test and control, it was unnecessary to be 100 per cent. pure. The B.P. assay did not necessarily determine trypsin alone—often carboxypeptidases were estimated. Diastase powder could be assayed satisfactorily by the method if in a concentration in excess of 1 in 200.

DR. A. H. BECKETT, London, thought the authors should bring their work to the attention of an investigating committee of the International Pharmaceutical Federation that was collecting information on enzyme studies. He asked if equal results had been obtained in the presence of inert matter. Had the size of the enzyme molecule any bearing on the final figure? Mr. CARTER replied that trypsin had been assayed successfully in the presence of boiled pancreatin. Amylase of animal origin was of different molecular weight than diastase of vegetable origin. In any given estimation, the "control" should be of the same source.

The twenty-third paper was read by MR. M. TAIT. It was entitled

Influence of Varying Solubilising Properties of Polysorbate 80 on Vitamin-A Palmitate : Polysorbate 80 : Glycerol : Water System

P. F. G. BOON, C. L. J. COLES and M. TAIT THE system vitamin A palmitate: Polysorbate 80: glycerol: water has been studied with special reference to the production of one-phase, water-miscible, transparent solutions, whose solution is shown to depend on the hydrophile-lipophile balance of Polysorbate 80. That can be controlled by a cloud-The authors point titration method, comment that considerable differences of area obtained from materials con-forming to the U.S.P. XVI emphasise the need for a simple quantitative measure of solubilising power.

(From Glaxo Laboratories, Ltd., Greenford, Middlesex)

DR. M. DONBROW, London, endorsed the authors' hope that eventually it might be possible to predict the solu-

bility of polysorbate 80. It appeared that the sample of vitamin A palmitate used in the tests contained about 16 per cent, of impurities. That would mean that the results were specific for the sample used. He asked whether a temperature control had been applied during the tests.

MR. TAIT replied that a temperature range of 24-28° C, had been maintained throughout. MR. C. L. J. COLES, coauthor of the paper, confirmed that the sample of vitamin A had not been pure, but said the same sample had been

used in all tests.

MR. B. A. MULLEY, London, asked how accurate the results were in respect of the percentage contents of polyoxyethylene in different samples of polyorbate 80. The speaker replied: "± 1 per cent." Speaking as a hospital pharmacist, MISS C. M. HORSLEY, Harrow, said that vitamin A was sometimes used topically in cases of corneal ulceration. What ratio of polysorbate 80 to vitamin A could be used to give a satisfactory preparation? Mr. Coles: "Normally, 10:1, by weight. That amount might be reduced to 6:1 if 20-30 per cent. of glycerin were included in the formula."

DR. T. D. WHITTET, London, and MR. K. A. LEES, Greenford, thought the paper would help to formulate consistently satisfactory preparations of polyvitamins. In reply to Mr. J. Waller, South-west London, Mr. Tait said that vitamin A would pass into one phase only of a two-phase emulsion. MR. COLES added that, as vitamin A palmitate was yellow, it could be seen

in just the one phase.

The next paper, a short communication, was delivered by Dr. B. A. Mulley. Its subject was:-

Phase Equilibria in Systems Containing Non-ionic Surfactants and Benzene

B. A. MULLEY

ATTEMPTS have been made in recent years to describe solubilised systems by phase rule diagrams. Most of the work has been with anionic materials, usually at one temperature, though a few cationic materials were also used. For the present study non-ionic surface-active agents were chosen. The paper gives uncompleted results obtained with three commercial surface-active agents, using benzene as the material to be solubilised. The pattern of phase behaviour found closely agrees with previously recorded findings. Although the concentrations and temperatures at which phases exist in different systems vary, the arrangement of the regions for anionic, cationic and non-ionic surfaceactive agents and a number of different additives follows a set pattern.

(From the School of Pharmaey, Chelsea College of Seience and Technology)

Mr. Boon, Greenford, asked for the origin of the figures quoted, which Dr. Mulley had stated were derived from manufacturers' literature. K. A. LEES, Greenford, mentioned that increases in temperature caused a minophasic system to change to a diphasic one. Dr. MULLEY had not noticed any irreversible effects. He also suggested that there was some possible

correlation of his work to be found in the previous paper. Dr. C. L. J. Coles said that one had to be careful in interpreting the phase changes at elevated temperatures, since the wetting agent was no longer in solution. Dr. Mulley suggested that what separated out at the higher temperature was not the surface-active agent. There was often a second phase that was not the pure component.

The twenty-fifth, and last, paper of the Science sessions was presented by Dr. J. E. Carless. It was concerned with:—

Flow Properties of Barium Sulphate Suspensions

J. E. CARLESS and N. C. CHENOY

Barium sulphate particles of narrow size range were prepared by precipitation and the flow properties of suspensions of the particles were investigated. Particle sizes were determined by a photoextinction sedimentometer method. The mean size of the particles varied from 6 μ to less than 1 μ . The flow properties of the suspensions can be

explained by relating the viscosity not only to the volume concentration of the solid present but also to the volume of "free liquid" in the suspension. Equating relative viscosity to concentration of a suspension fits the experimental results if an "effective concentration" is substituted for the actual concentration of solid. The "effective concentration" is the total volume of solid together with the solvent trapped within clumps of particles. The effective concentration was estimated from the sedimentation volume of the suspension.

(From the School of Pharmacy, Chelsea College of Science and Technology)

In reply to a series of questions by DR. D. TRAIN, London, upon practical details of the tests and the presentation of results therefrom, DR. CARLESS commented that there was no consistent relationship between particle size and shape. Irregularly shaped particles resulted in a more viscous product than spherical particles. The efficiency of the photoextinction method for measuring particle size had been found equal to the sedimentation balance and other methods.

FAREWELL TO "J.P."

Professor Todd retires after forty years of pharmacy teaching

PROFESSOR James P. Todd, who retired at the end of the 1960-61 session from the school of pharmacy, Royal College of Science and Technology, was appointed as its sole lecturer when it was newly constituted in 1921, and the growth of the school to its present proportions has been a remarkable tribute to his foresight and able direction. The first courses offered were those leading to the examinations of the Pharmaceutical Society, but in 1924 the first student was enrolled for the degree of B.Sc. in Pharmacy of Glasgow University, which had in fact been instituted in 1907. Teaching for that degree began in the School under the Ordinance of Affiliation.

First Professor of Pharmacy

Mr. Todd was awarded the degree of Doetor of Philosophy in 1932, and in 1937 was appointed professor of pharmacy. The chair of Pharmacy was the first in the United Kingdom. Professor Todd's responsibilities also included the departments of botany and bacteriology and the Scottish school of bakery. Much of the credit for the development of those disciplines to the status of full departments, with separate chairs in food science and in applied microbiology and biology, belongs to Professor Todd. No record of his achievements would be complete without mention of his work during the war years, when infusion fluid and blood-transfusion units were set up in the College under his direction. The permanent West of Scotland Region Blood Transfusion Service stands as a lasting reminder of that period of his career. His studies of bacterial pyrogens stemmed directly from that work, and he is now recognised as a leading authority on the subject.

For many years he has been a leading figure in pharmaceutical education, and has held appointments as external



examiner in the universities of Belfast, London, Manchester, Nottingham and Wales and for the Pharmaceutical Society of Great Britain. At present he is the chairman of the Scottish board of examiners for the Society and a member of its education subcommittee. He is also a member of the Cohen Committee and a past-member of the British Pharmacopæia Commission, and was chairman of the British Pharmaceutical Conference in 1955, Professor Todd has done valuable work as honorary consultant pharmacologist to the Glasgow Royal Infirmary, and can take pride particularly in his work with the burns unit and in his formulation of an extensively used burn cream.

His many friends will wish him a long and happy retirement. It is certainly well earned.

[See also correspondence, p. 419, regarding a research trust fund.—EDITOR.]

NOTES ON NEW MEDICAMENTS

CATRAGEN.—Constituents: H. influenzæ; Strep. and K. pneumoniæ; N. catarrhalis and streptococci. Those organisms are associated with the secondary bacterial invasion that occurs with "colds," and are responsible for catarrhal symptoms. Vaccination with mixed vaccines prepared from the organisms can reduce the severity of secondary effects. The original cause of the cold, which is caused by a virus, is not affected, but symptoms become relatively transient.

DRAZINE.—Chemistry: (1-methyl-2-phenoxyethyl) hydrazine, or phenoxypropazine, as the hydrogen maleate. This compound, like a number of other recently introduced hydrazine derivatives, inhibits the action of the enzyme monoamine oxidase, and is used in the treatment of mental depression. It is claimed that the drug has a rapid and highly effective action, is less toxic than other compounds, and evokes a more stable response in patients receiving long-term treatment. Other monoamine oxidase inhibitors used in the treatment of depression are phenelzine (Nardil), nialamide (Niamid), iproniazid (Marsilid), isocarboxazid (Marplan) and pheniprazine (Cavodil). Parnate, or tranyl-cypromine, exhibits similar pharmacological activity but differs chemically in being a derivative of cyclopropylamine and not hydrazine.

DULCOLAX. — Chemistry: 4 - 4′ - diacetoxy - diphenyl-pyridyl-2-methane, or bisacodyl. This compound has a specific action on the colon, causing smooth, co-ordinated waves of peristalsis. Unlike many classical purgatives, this effect is not due to irritation of the intestinal mucosa by the drug, but is the result of the stimulation of specific receptors in the colon. This response is achieved without spasm, and thus resembles normal peristalsis. Other synthetic laxatives are diacetoxyphenylisatin (present in Cirotyl) and dihydroxyphenylisatin, used as Veripaque for the removal of fæces and colonic gas before abdominal radiography.

DUPHASTON. — Chemistry: 6-dehydro-retro-progesterone, or isopregnenone. This compound differs from the natural hormone of the corpus luteum in the loss of hydrogen and the formation of a double bond in the 6-position, a change of the hydrogen from α - to the β -position at carbon atom 9, and a change of a methyl group at 10 from the β - to the α -position. These small changes effect a marked increase in potency, as isopregnenone is over thirty times as active as progesterone. Other orally active synthetic progestogens are norethisterone (Primulot-N), the corresponding acetate (Norlutin-A), dimethisterone (Secrosteron), norethynodrel (Enavid, Conovid) and allylestrenol (Gestanin). Ethisterone, one of the early products of this type, is available as Gestone oral, Progestoral and Lutocyclin.

FLUGEN.—Constituents: Inactivated strains of the influenza viruses A/England/1/61 and B/England/1/59. Those viruses are considered to be those most likely to cause influenza during the coming winter, and vaccination with such strains can give a valuable degree of protection from infection. The use of a mixed vaccine is important because immunity to one virus does not afford protection against another. As the vaccine is prepared from cultures of egg-adapted strains of the virus, it should not be used in patients sensitive to egg or chicken protein. Flubron is a similar product, prepared from two strains of A and one of B types virus.

INFONUTROL.—Constituents: Cotton seed oil and dextrose. In severe illness and injury, intravenous dextrose and to a lesser extent protein hydrolysates and amino-acids have been used for parenteral feeding. Though useful, those drugs often provide insufficient calories, and it has long been known that the addition of fat would solve the difficulty. The preparation of a sterile fat emulsion suitable for intravenous injection is not easy—symptoms such as chill, fever, chest pain and urticaria have followed the use of earlier preparations. The incidence of side reactions has now been reduced by the use of highly purified constituents.



The current 'Your Baby' campaign with its half pages in the "Daily Express", "Daily Mirror", "Woman", "Woman's Own" and "Woman's Realm" is providing opportunities for even greater sales of Ostermilk and Farex. For your full share of this extra business read—and encourage your assistants to read—Glaxo Topics and parcel leaflets for sales points. And of course keep up your Ostermilk and Farex displays with the latest crowners and showcards.

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TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, OCTOBER 11: The markets showed little or no sign of picking up from the recent quiet spell. Stocks of CRUDE DRUGS on the spot are low and there would be difficulty in meeting any spurt of orders for many items

should they be required quickly.

New crop Tinnevelly Senna Leaves and Pods have now arrived the prices of both are mentioned on the next page; f.a.q. manufacturing pods however are temporarily scarce. There was no change in the IPECACUANHA position except that a price indication was forthcoming from Brazil although there were no firm offers. Chinese Menthol continued to ease with duty-paid material around 60s. per lb. (down 2s. 6d.) and shipment at 53s. (down sixpence). Cherry Bark on the spot is now 1s. 9d. per lb.

In ESSENTIAL OILS, Ceylon CITRO-NELLA remained firm with origin quoting 6s. per lb., c.i.f. (up one penny). There appeared to be no LEMONGRASS offering on the spot while shipment was threepence dearer at 18s. per lb., c.i.f. Brazilian PEPPERMINT was a

shade easier in both positions.

Pharmaceutical Chemicals

Adrenaline. — (Per gm.). Synthetic B.P. 1-kilo lots, 11d.; 500 gm., is 1s. 1d. Acid tartratz, B.P., 1 kilo, $7\frac{1}{2}d.$; 500 gm. 9d.

CHLOROFORM.—1-cwt. lots in winchesters, 3s. $4\frac{1}{2}$ d, per lb.; 56-lb., 3s. 6d. In drums, 3s. 2d, and 3s. $2\frac{1}{2}$ d. per lb., respectively.

Chloroxylenol.—B.P., 5s. 8d. per lb. for 1-cwt. lots; 5s. 3d. per lb. for 1-ton.

CITRIC ACID. — Domestic powder and crystals (in kegs) per cwt., 1-4-cwt. lots, 186s, per cwt. 5-19-cwt., 182s.; 1-ton, 181s. In paper bags, prices are 179s., 175s, and 174s., respectively.

DIPHENAN. — (Per lb.), 55s. 3d. (56-lb.), to 63s. (1-lb.).

GLYCERIN.—Chemically pure B.P. (s.g. 12627):—

	Over 25 tons		5 to an und 25 to	d ler	1 to and und 5 to	d er	Under 1 ton		
TANK WAGONS	5.	d.	S.	d.	s.	d.	5.	d.	
10-14 tons	196 0		_		_	-	<u> </u>		
5-10 tons	197 6		199	6	-	-	<u> </u>		
DRUMS									
10 cwt.	200	0	202	0	205	0	211	0	
5 cwt.	200	0	202	0	205	0	211	0	
2½ cwt.	202	0	204	6	207	6	213	6	
1 cwt.	204	0	206	0	209	0	215	0	
TINS				- 1			ĺ		
56 lb.	219	6	221	6	226	6	235	0	
28 lb.	225	0	227	0	232	0	240	6	
14 lb.	231	0	233	0	238	0	246	6	

Delivery of less than 1 cwt. charged 7s. 6d. extra. Drums charged and returnable. Technical grade glycerin s.g. 1·2627 is 191s. 0d. per cwt. for lots of over 25 tons.

HEXAMINE.—B.P., 1s. 11½d. per lb. for 1-ton lots, delivered in 1-cwt, kegs. Technical is threepence per lb. less.

HYDROCHLORIC ACID.—B.P., 50s. per cwt. in carboys.

HYDROQUINONE. — One-cwt. lots, 10s.; 1-ton, 8s. 6d. per lb.

HYOSCINE HYDROBROMIDE.—Per oz., 102s. HYPOPHOSPHITES.—Per lb.:—

Isoprenaline.—One-kilo lots, 390s. per kilo.

Magnesium Chloride. — Onc-cwt. 1s. 10d. per lb., 5-cwt., 1s. 7d.

Magnesium dihydrogen phosphate. — One-cwt. drums, 4s. per lb.

Magnesium hydroxide.—B.P.C., 1-cwt. lots, 3s. 7d. per lb.; 1-ton, 3s. 2d. per lb.

Magnesium oxide, B.P.—Light, 1-cwt. lots, 3s. 2d. per lb.; heavy, 5s. 10d. per lb

Magnesium peroxide.—B.P.C. (15 per cent.), 3s. 11d. per lb. (1-cwt.).

Magnesium sulphate. — B.P. in minimum 1-ton lots varies between £19 5s. and £25 per ton according to size of crystal and manufacturer. Exsiccated, £52 per ton. All ex works.

Magnesium trisilicate.—(Per lb.). In 28-lb. packages:—28-lb., 4s. 9½d.; 1-cwt. 3s. 10d.; 5-cwt., 3s. 7d.; 1-ton, 3s. 1d.

OXALIC ACID.—Manufacturers' rates for 1-ton lots £128 10s. per ton, delivered in free kegs.

PANCREATIN.—B.P., 21s. per kilo for 25-kilo lots.

Penicillin. — Sodium, Potassium or Procaine, 7d, per mega unit.

PHENACETIN.—B.P. one-ton lots, 6s. 3d. per lb.; 1-cwt., 6s. 6d.

PHOSPHORIC ACIDS. — B.P. (s.g. 1'750) is from 1s. 4d. to 1s. 8d. per lb. as to quantity. B.P. 1914, 1s. 2d. to 1s. 6d. per lb. HYPOPHOSPHOROUS, B.P.C., in winchesters is from 7s. 5d. to 8s. 6d. per lb. as to quantity; drums, 7s. per lb.; 50 per cent. acid in drums, 8s. 9d. per lb.

Picrotoxin.—Per oz. 45s. 6d. (4-oz.).

Potash sulphurated. — Lump, B.P.C., 2s. 9d. per lb. in 1-cwt. lots.

Potassium acetate. — (Per lb.) 1-cwt. lots, 3s.; 5-cwt., 2s. 8d.; 10-cwt., 2s. 6d.

Potassium bicarbonate.—B.P. powder, 110s. per cwt. 1-4-cwt. lots and 105s. per cwt. for 5-cwt. and over,

Potassium bromate. — In 5-cwt. lots, 5s. 3d. pei lb.

Potassium carbonate. — One-cwt. kegs, 2s. 3d. per lb.

Potassium chlorate. — One-cwt. cases, 2s. 6d. per lb.

Potassium hydroxide.—B.P. sticks are from 6s. 8d. per lb. and pellets, 4s. 6d.; technical flake, 1s. 10d.

POTASSIUM 8-HYDROXYQUINOLINE SUL-PHATE. — 1 kilo is 47s. 1d. and 50 kilos, 44s. per kilo.

Potassium metabisulphite. — One-cwt. kegs, 170s.

Potassium nitrate. — Pharmacopæial quality, 100s. per cwt. (crystals or powder) in 1-cwt, lots.

Potassium permanganate.—Scarce, B.P. in 1-cwt. lots, 2s. 0\frac{1}{3}d. per lb. Technical, 214s. per cwt.; 1-ton lots, 203s. per cwt.

Potassium quadroxalate. — One-cwt., 3s. 6d. per lb.

POTASSIUM SULPHATE. — B.P. 1949, one-cwt. lots, 1s. 2d. per lb.

Potassium thiocyanate. — One-cwt., 5s. 6d, per lb.

RESORCINOL.—One-cwt. lots, 12s. 4d. per

ROCHELLE SALT.—Powder or granulated. 5-cwt. lots or over in kegs, 220s. per cwt.; 1-cwt. 222s. 6d, (bags less 5s.).

SACCHARIN.—B.P.C. powder, One lb. and over, 108s. 2d. per lb.; SODIUM SALT, 87s. 6d. per lb. Prices include duty and carriage.

Sal prunella.—Balls, 3s. 10d. per lb. in. 1-cwt. lots.

SALOL,—B.P.C., 9s. per lb. (1-cwt. lots). SODIUM ACETATE. — B.P.C., one cwt., 2s. 1d. per lb.

Sodium acid phosphate.—B.P.C., one-cwt. kegs, 2s. 9d. per lb.

Sodium Benzoate.—One-ton lots, 2s. $7\frac{1}{2}d$. per lb.; 1-cwt., 2s. $9\frac{1}{2}d$.

SODIUM BICARBONATE.—B.P., 1-cwt. bags, £18 per ton for 8-ton lots.

SODIUM BROMATE. — One-cwt., 9s. 9d. per lb.

SODIUM CARBONATE. — B.P.C. exsiccated, 70s. per cwt.; 5-cwt., 65s. per cwt.

Sodium chloride. — B.P., 37s. 4d. per cwt. in sacks.

Sodium fluoride. — B.P.C. 1934, one-cwt, kegs, 3s. 6d. per lb.

SODIUM HYDROXIDE. — FLAKE, 1-cwt. drums, 55s. cwt.; STICKS, 14-lb. tins, 115s.

SODIUM METABISULPHITE. — Granular, 1-cwt. lots, ninepence per lb.

SODIUM NITRITE.—B.P.C. One-cwt. kegs, 2s. 7d. per lb.

SODIUM PERBORATE. — (Per ton) £145 15s. in 1-cwt. kegs; £138 5s. in 1-cwt. bags for B.P.C. (minimum 10 per cent. available oxygen). PERBORATE MONOHYDRATE testing 15 per cent. available oxygen is £309 15s.; TETRAHYDRATE, from £131 15s. to £139 5s. per ton as to packing.

SODIUM SALICYLATE. — One-ton lots in bulk, 3s. 9d. per lb.; 5-cwt., 3s. 10d.; 1-cwt., 4s.

SODIUM SULPHATE.—B.P. from £22 per ton as to crystal. B.P. exsiccated, about £54 per ton.

Sodium sulphide.—In 1-ton lots: Solid, £38 2s. 6d.; broken, £39 2s. 6d.; flake, £40 12s. 6d.; crystals, £29 10s.

Sodium thiosulphate. — Photographic crystals in paper-lined bags, £38 per ton.

ZINC CARBONATE. — One-cwt. lots 1s. $11\frac{1}{2}$ d. per lb. 1-ton, 1s. 8d.

ZINC CHLORIDE. — B.P.C. cake, 7s. per lb.; sticks, 7s. 10d. TECHNICAL, 115s. per cwt.

ZINC OXIDE.—Two-ton lots B.P. grade, £100 per ton; 1-ton, £101.

ZINC PEROXIDE. — One-cwt. lots of B.P., 5s. 3d. per lb.

ZINC SULPHATE. — B.P., 1-cwt. lots, 1s, 6d. per 1b.

LONDON EXCHANGE RATES

At the opening on Tuesday

1	Atthe	opening on	1 acsaay
	Amsterdam Bombay	Florins to £ Shillings to rupce	$10 \cdot 15 \frac{1}{4} - 10 \cdot 15 \frac{1}{2}$ $1/5 \frac{15}{16} - 1/6 \frac{1}{16}$
	Brussels Copenhagen.	Francs to £ Kronor to £	$ \begin{array}{c} 140 \cdot 07 \frac{1}{2} - 140 \cdot 12 \frac{1}{2} \\ 19 \cdot 37 \frac{7}{8} - 19 \cdot 38 \frac{1}{8} \end{array} $
ì	Frankfurt	D Marks to £	$11.24\frac{1}{4} - 11.24\frac{1}{2}$
	Hong Kong .	Shillings to \$	1/215-1/316
	Karachi	Shillings to	
ł		rupee	1/518-1/618
	Lisbon	Escudos to £	80.18-80.28
	Malaya	Shillings to \$	2/3 15-2/4 16
i	Milan	Lira to £	1,746 1-1,747 1
1	Montreal	Dollars to £	$2.89\frac{7}{8}-2.90$
1	New York	Dollars to £	2.78-2.82
Į	Osio	Kronor to £	20.012-20.023
1	Paris	Francs to £	$13.83\frac{1}{9} - 13.83\frac{5}{9}$
1	Stockholm	Kronor to £	14.53 1-14.53 1
1	Zurich	Francs to £	$12 \cdot 17\frac{3}{8} - 12 \cdot 17\frac{5}{8}$
	*Bank of Engla		ts. Bank rate: $6\frac{1}{2}$

Crude Drugs

- Spot: Spanish napellus, ACONITE. 2s. 6d. per 1b.

AGAR.—Kobé No. 1, 14s. 6d. per lb. in bond; shipment, 14s. 3d., c.i.f.

ALOES. — Cape primes, spot, 175s. per cwt.; shipment, 155s. to 165s., c.i.f. Curação, spot, 450s.; shipment, 425s., c.i.f.

BALSAMS.—Per lb.: CANADA: Spot, 20s. COPAIBA: Spot scarce and shipment not offering. PERU: Spot, 8s. 9d. in bond. Tolu (genuine as imported), 35s.; from 12s. to 17s. 6d. as to analysis.

BELLADONNA.—HERB, 1s. 9d. per lb., in bond. Leaves, 1s. 8d.; shipment, new crop 1s. 10½d., nominal. Roor, good testing new-crop nominally, 1s. 9d. landed.

BENZOIN. — Sumatra block, spot £20 to £28 as to quality.

BUCHU.—Spot new crop, 4s. 3d. per 1b.; shipment, 4s., c.i.f.

CALAMUS.—Root, 100s. per cwt., spot, 87s. 6d., c.i.f.

CAMPHOR.—B.P. powder, 3s. 10½d. per lb. in bond.

CAPSICUMS. - Chinese, on stalk, per cwt., duty paid; Ethiopian, 150s.

CARDAMOMS. — Aleppy greens, 13s. per lb., spot; shipment, 10s. 6d., c.i.f.; SEEDS, 19s. 6d. spot and 16s. 9d., c.i.f.

Cascara. — Spot, 1960 peel, 270s. per cwt.; 1961 peel, for shipment, 255s., c.i.f. CASSIA. — Fistula, 105s. per cwt.: lignea (whole), 448s. spot; shipment, 335s.,

CHAMOMILE.—Belgian, 6s. 6d. to 7s. 6d. per lb. as to quality; Hungarian type, 6s. 6d.

CHERRY BARK.—Thin natural, 1s. 9d. per lb.; Shipment, 1s. $6\frac{1}{2}$ d., c.i.f.

CHILLIES. -- Nigerian, 210s. per cwt. Mombasa, 330s.

CINNAMON QUILLS.—Shipment (c.i.f., per lb.) 4 O's, 5s. 1\(\frac{1}{2}\)d.; 3 O's, 4s. 7\(\frac{1}{2}\)d.; Q, 4s. 3\(\frac{1}{2}\)d.; quillings, 3s. 3\(\frac{1}{2}\)d.; featherings, 1s. $6\frac{3}{4}$ d.

CLOVES. — Zanzibar spot, 2s. $9\frac{1}{2}$ d. per lb.; shipment, 2s. $7\frac{1}{4}$ d., c.i.f.

Cochineal.—Black-brilliant, 10s. 6d. per lb., spot; Peruvian silver-grey, 4s. 6d.

COCILLANA. — Bark, 2s. per lb., spot; ls. 8d., c.i.f.

COLOCYNTH PULP.—Spot, 2s. to 2s. 6d. per lb. as to quality.

DIGITALIS. — Purpurea for shipment, old crop, 11d.; new crop, 2s. 4d. per lb.,

ELEMI.--Spot, 2s. 1d. per lb. Shipment, 1s. 11d., c.i.f.

Ergot. — Portuguese, 8s. 9d. per 1b., c.i.f., for prompt shipment; spot, 9s.

Frangula.—Spot, 87s. 6d. per cwt.

GENTIAN.—Spot, French, 150s. per cwt. GUM ACACIA. — Kordofan cleaned sorts, 142s. 6d. per cwt., spot; October-November shipment, 127s., c.i.f.

HENNA. - Indian, spot, 95s. per cwt.; shipment, nominal.

Honey. — Australian light amber, 107s. to 112s. per cwt. and medium amber, 98s. to 102s. Argentine, 125s. to 130s. Jamaican, 115s. to 120s.; Canadian clover, 150s. to 155s., all ex warehouse.

IPECACUANHA.—Shipment: Costa Rican, 70s. 6d. per lb., c.i.f.; Matto Grosso, 51s., c.i.f.; Colombia and Nicaragua not offering. Spot: Matto Grosso, 54s.; Colombian, 54s.

JUNIPER BERRIES. — Italian, 100s. per cwt.; German, 120s.

Karaya. — No. 1 gum, spot 300s. per cwt.; No. 2, 235s.

LANOLIN. — ANHYDROUS B.P. is from 170s. to 175s. per cwt. in 1-ton lots and HYDROUS B.P., 150s., free drums, delivered. LEMON PEEL.—Spot, 2s. 9d. per 1b.

LINSEED.—Whole, 70s. to 75s. per cwt.; crushed, 105s.

LIQUORICE.—Natural root short. Persian on the spot 50s, per cwt.; Anatolian, 57s. 6d.; Russian, 65s. Block juice: Anatolian from 190s. per cwt.; Italian stick from 392s. to 470s. per cwt.

LOBELIA HERB.—American spot, 7s. per lb.; shipment nominally 6s. 6d., c.i.f., and Dutch, 4s. 3d., c.i.f., nominal.

MACE.—Whole pale blade, 22s. per lb.,

MENTHOL.—Chinese: spot, 60s. per 1b., duty paid; shipment, afloat, 53s. 6d.; shipment, 53s., c.i.f. Brazilian, 48s., in bond: shipment, 47s., c.i.f. (October-November). Formosan, 49s., in bond; shipment, 47s. 9d., c.i.f.

Mercury. — About £62 per flask of 76-lb.

NUTMEGS. — West Indian 80's, 9s. 6d. per lb., spot; sound unassorted, 7s. 3d.; defectives, 6s. 3d.

NUX VOMICA. - Shipment (per cwt.), Cochin, 65s., c.i.f.

Orange Peel. — Spot: Sweet ribbon 1s. 10d. per lb.; bitter quarters: West Indian, 11d.; Spanish, 1s.; bitter ribbon,

Orris root.—Florentine, 335s. per cwt. PEPPER.—White Sarawak, spot, 3s. 7d. per lb.; shipment, 3s. 5½d., c.i.f. Black Sarawak, spot, 3s. 4d.; shipment, 2s. 11d., c.i.f. Black Malabar, 400s. per cwt. spot nominal, and 355s., c.i.f.

PEPPERMINT. — Dutch whole leaves, 3s. per lb., c.i.f.

PIMENTO.—Spot, 588s., cwt.; shipment, 540s., f.o.b.

Podophyllum.—Emodi nominal; Peltatum, 435s. per cwt.

Pyrethrum.—Extract, minimum 25 per cent. w/w pyrethrins, 74s. 6d. per 1b. for small lots.

RHUBARB. — Chinese small rounds from 5s. 6d. to 6s. 9d. per lb. on the spot.

Saffron. — Mancha selecta, 140s. per

SARSAPARILLA. — Jamaican native red spot, 2s. 6d. per lb.; shipment, 2s. 1d.,

c.i.f.

SEEDS. — (Per cwt.). Anise.—Egyptian, 205s., duty paid. Caraway.—Dutch, 155s., duty paid. Celery.—Indian, 210s., spot; shipment, 195s., c.i.f. Coriander.—Moroccan, 130s., duty paid. Indian bold, 107s. 6d., spot; shipment, Moroccan, 117s. 6d., c.i.f. Indian bold, 82s. 6d., c.i.f. Cumin.—Indian, 170s. spot; Iranian, 160s., duty paid. Dill.—Indian, 100s., spot; shipment, 87s. 6d., c.i.f. Fennel.—Indian, 105s., spot. Fenugreek. — Moroccan, 97s. 6d., duty paid; shipment, 79s. 6d., c.i.f. Mustard.—English, 70s. to 77s. 6d. according to quality.

SENNA.—Tinnevelly Leaves. new crop.

according to quanty.

SENNA.—Tinnevelly LEAVES, new crop, spot: Prime No. 1, 1s. 10d. per lb.; prime No. 2, 1s. 3d.; f.a.q. No. 3, 11d. Pods: new crop on spot, 2s. 2d. per lb. for hand-picked No. 1; 1s. 7½d. for No. 2 and manufacturing f.a.q. scarce at 11½d, to 1s. Alexandria pods: Manufacturing, 1s, 6d.; hand-picked, 4s. 6d. to 7s. 6d. per lb.

STYRAX. — Spot, 25s. 9d. per lb., shipment, 24s., c.i.f.

Tragacanth. — No. 1 ribbon, £140 to £145 per cwt. No. 2, £132 10s. to £137 10s.

TURMERIC.—Madras finger, spot sold at 117s. 6d. per cwt.; shipment, 107s. 6d., c.i.f., quoted.

WAXES. — (Per cwt.). BEES'.—Dar-es-Salaam, spot, 425s.; shipment, 390s., c.i.f. Abyssinian, 375s. in bond; shipment, 370s., c.i.f. Sudanese, spot, 410s.; shipment, 370s., c.i.f. Candelilla, spot, 465s. Carnauba, fatty grey, spot, 440s.; shipment, 417s. 6d., c.i.f.; prime yellow, spot, 690s. quoted; shipment, 655s., c.i.f.

Essential and Expressed Oils

AMBER.—Rectified on the spot, 1s. 6d. per lb.

BAY.—West Indian short on the spot, prices nominal.

BERGAMOT.—Spot, from 72s. 6d. per lb. BIRCH TAR.—Rectified 8s. per lb.

CADE. - Spanish, 2s. 9d. per lb. for drum lots.

CAMPHOR, WHITE.—Chinese, 1s. 9d. per lb. in bond; 1s. 6d., c.i.f.

Cananga.—Spot, from 35s. per lb.

CARAWAY.—Imported oil, 33s. 6d. per lb. Cassia.—Short with prices nominal.

CEDARWOOD.—American rectified 9s. 6d. per lb. on the spot.

CHENOPODIUM.—B.P.C., oil 8s. per lb. on the spot.

CINNAMON. — From quillings, best English-distilled is 650s. per lb.; other B.P. oils from 85s. per lb. Ceylon leaf, forward shipment, 11s. 4½d.; Seychelles, 7s., spot.

CITRONELLA. — Ceylon, spot, 6s. 1½d.; shipment, 6s. per lb., c.i.f. Formosan, spot, 8s. 3d., in bond; shipment, 8s. 1½d.,

Cop-liver. — B.P. is 11s. 6d. per gall. including charged returnable drums. Veterinary is from 9s. 6d. per gall. Delivered terms, 25-stone lots.

CUBEB.—Small spot supplies of imported are 65s. per lb.; English, 90s.

Cumin. — Imported oil, 90s. per lb.; English-distilled, 85s.

DILL.—Imported, 38s. 6d. per 1b., spot. EUCALYPTUS.—Spanish, 3s. to 3s. 6d. per lb. on spot. Chinese, 3s. 3d., all duty paid.

Fennel.—Spanish sweet, spot, 10s. per 1b. GINGER.—Imported: Jamaican, 130s. per lb.; Chinese, 72s. 6d. duty paid.

LAVANDIN.—Spot from 7s. per lb. for

original drums.

LAVENDER.—French from 20s. to 50s. per lb. as to quality.

LAVENDER SPIKE.—Spanish, 11s. per lb. for original drums.

LEMONGRASS. — Spot nominal. October shipment, 18s. per lb., c.i.f.

LIME. — West Indian distilled, 48s. per lb. on the spot.

PALMAROSA. — Spot, 37s. 6d. per lb.; shipment, 36s., c.i.f.

Pennyroyal. — Spot is 20s. per 1b., duty paid.

PEPPERMINT. — Arvensis: Chinese spot. 30s.; shipment, 26s, 6d., c.i.f. Brazilian spot, 16s. 10½d.; shipment, 16s. 7½d., c.i.f. Piperita: Italian, 48s. per lb., spot nominal; shipment new crop, upwards of 60s. for best oil asked. American from 28s. to 30s. per lb. as to make. 30s. per lb. as to make.

PETITGRAIN.—Paraguay, 18s. 6d. per lb., spot; shipment, 17s. 6d., c.i.f.

RUE.—Spanish is 19s. 6d. per lb. spot. SAGE.—Spanish, 8s. 6d. per lb., Dalmatian, 23s.

Sandalwood. East 172s. 6d. to 175s. per lb.; forward, 170s., c.i.f.

Tangerine.—From 35s, to 40s, per 1b, as to quality.

VETIVERT. — Bourbon spot, 110s. to 112s. 6d. per lb.; shipment, 108s., c.i.f. YLANG YLANG.—Spot, 37s. 6d. per-lb.

UNITED STATES REPORT

NEW YORK, OCTOBER 10: While whole Mexican VANILLA beans firmed up by 25 cents to \$7.50 a lb., the Bourbon beans declined by 15 cents to \$6.60, reflecting upset conditions at the primary centre. Lower per 1b. were Haitian VETIVERT OIL at \$8.50, down 75 cents, and Californian LEMON at a nominal \$4, down 25 cents.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Sunday, October 15

NORWICH BRANCH, PHARMACEUTICAL SOCIETY, St. Peter Mancroft Church, at 3 p.m. Annual service for medical and allied professions.

Monday, October 16

LONDON NURSING EXHIBITION, Seymour Hall, Seymour Place, London, W.1. (Until October 20.) OLDHAM BRANCH, PHARMACEUTICAL SOCIETY, Greaves Arms hotel, Oldham, at 8 p.m. "Grouse Evening." Mr. H. Steinman (a member of Council).

PESTICIDES GROUP, SOCIETY OF CHEMICAL INDUS-TRY, 14 Belgrave Square, London, W.1, at 5.30 p.m. Mr. E. Sherlock (Imperial Chemical Industries, Ltd.), on "Advances in the Chemistry of Phosphorus Insecticides."

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION, Lambeth Town Hall, Brixton, London, S.W.2, at 7.45 p.m. Members' photographic evening.

WOKING BRANCH, PHARMACEUTICAL SOCIETY, Red House hotel, Woking, at 8 p.m. Dr. K. R. Capper (director, Department of Pharmaceutical Sciences) on "The Problems in the Practice of Pharmacy."

Tuesday, October 17

ABERDARE AND MERTHYR and PONTYPRIDD AND RHONDDA VALLEY BRANCHES, PHARMACEUTICAL Society, Queen's hotel, Pontypridd, at 8 p.m. Joint meeting, Mr. C. C. Stevens on "Leading Cases in Forensic Pharmacy."

CAMBRIDGE AND HUNTINGDON BRANCH, PHARMA-CEUTICAL SOCIETY, Post-graduate lecture theatre, Addenbrooke's Hospital, Trumpington Street, Cambridge, at 8 p.m., Mr. H. F. Grundy (lecturer in pharmacology, University of Cambridge) on "The Blood Pressure and its Therapeutic Adjustment."

EDINBURGH AND SOUTH-EASTERN SCOTTISH BRANCH, PHARMACEUTICAL SOCIETY, 36 York Place, Edinburgh, at 7.45 p.m. Mr. A. R. G. Chamings (a member of Council) on "The Interdependence of Pharmacy."

HARROGATE BRANCH, PHARMACEUTICAL SOCIETY, Blue Bird café, Parliament Street, Harrogate, at 7.30 p.m. Branch representatives' reports. Mr. P. G. Flood (a member of Council) on "Pharmaceutical Pyrotechnics."

MANCHESTER AND SALFORD BRANCH, PHARMACEUTI-CAL SOCIETY and PHARMACEUTICAL ASSOCIATION, Fallowfield hotel, at 7.30 p.m. Dance.

STAFFORD BRANCH, INSTITUTE OF PACKAGING, Swan hotel, Stafford, at 7 p.m. Mr. R. A. Silk (editor, Packaging News) on "Packaging in America."

WEST KENT BRANCH, PHARMACEUTICAL SOCIETY, Hackwood hotel, Widmore Road, Bromley, Kent, at 8 p.m. Inaugural meeting.

Wednesday, October 18

BIOLOGICAL METHODS GROUP, SOCIETY FOR ANALY-TICAL CHEMISTRY, meeting room, Chemical Society, Burlington House, Piccadilly, London, W.1, at 7 p.m. Miss E. M. Wilson (scientific assistant to director, Central Enteric Reference Laboratory and Bureau) on "The Use of Bacteriophages in Epidemiology,"

CARDIFF BRANCH, PHARMACEUTICAL SOCIETY AND PHARMACISTS' ASSOCIATION, Grand hotel, Cardiff, at 7,30 p.m. Mr. C. C. Stevens on "The Pharmacist and the Common Law,"

CHESTERFIELD BRANCH, PHARMACEUTICAL SOCIETY, Portland hotel, Chesterfield, at 8 p.m. Mr. F. W. Adams (registrar, Pharmaceutical Society) on "Report of the Committee on the General Practice of Pharmacy."

LONDON SECTION, ROYAL INSTITUTE OF CHEMISTRY and London Section, Society of Chemical In-DUSTRY, Technological Research, Spillers, Ltd., Station Road, Cambridge, at 7.30 p.m. Dr. F. G. Mann on "Stereochemistry of Phosphorus and Nitrogen."

MANCHESTER PHARMACEUTICAL GOLFING SOCIETY, at Denton golf club. Fixture. President's side

versus Captain's side.
NOTTINGHAM BRANCH, NATIONAL ASSOCIATION OF WOMEN PHARMACISTS, Albert Hall Institute, Nottingham, at 7.30 p.m. Mr. L. Pollock on "Safety in the Home."

PHARMACY DEPARTMENT, SUNDERLAND TECHNICAL

COLLEGE, Sunderland, co. Durham, at 3 p.m. Extension course, Mr. S. J. Hopkins on "The Central Sterile Supply Department at Addenbrooke's Hospital."

SHEFFIELD BRAN.H, PHARMACEUTICAL SOCIETY and DEPARTMENT OF SCIENCE, SHEFFIELD COLLEGE OF TECHNOLOGY, College of Technology, Pond Street, Sheffield, 1, at 7.30 p.m. Dr. G. D. H. Leach on "Analgesics." (Third of six lectures 'Modern Pharmacology for Pharmacists.")

SOUTH COAST BRANCH, INSTITUTE OF PACKAGING. Polygon hotel, Southampton, at 7.30 p.m. Mr. M. B. Moody (United Glass, Ltd.) and Mr. D. B. Price (Metal Box Co., Ltd.) on "Glass v. Tin Plate as a Packaging Medium for Certain Specific Products."

SUNDERLAND BRANCH, PHARMACEUTICAL SOCIETY Seaburn hotel, Seaburn, Sunderland, at 7.15 p.m. Annual dinner and dance.

THAMES VALLEY BRANCH, INSTITUTE OF PACKAG ING, Reindeer hotel, Slough, Bucks, at 7,30 p.m. Mr. V. Mitchell (Spicers, Ltd.) on "Paper in Packaging."

Thursday, October 19

BIRMINGHAM BRANCH, INSTITUTE OF PACKAGING, Grand hotel, Colmore Row, Birmingham, 3, at 6.45 p.m. "Adventure-Pack." Illustrated address by Mr. L. E. Edwards.
CHESTERFIELD BRANCH, PHARMACEUTICAL SOCIETY

DEPARTMENT OF EXTRA-MURAL STUDIES, LIVERPOOL UNIVERSITY, Town Hall, Northgate Street, at 8 p.m. Extension course. Dr. H. Wilson on "Drugs used in the Control of Hypertension."

DUMFRIES AND GALLOWAY BRANCH, PHARMACEU-TICAL SOCIETY, County hotel, Dumfries, at 7,30 p.m. Mr. M. M. McNeile (secretary, Pharmaceutical General Coun "N.H.S. Remuneration." General Council (Scotland))

DUNDEE AND EASTERN SCOTTISH BRANCH, PHAR-MACEUTICAL SOCIETY, Kidd's restaurant, Reform Street, at 7.30 p.m. Branch representatives' reports. Members' films and slides evening.

EAST CUMBERLAND BRANCH, PHARMACEUTICAL SOCIETY, Ridlup (Wholesale Chemists), Ltd., Burgh Road, Carlisle, at 7.30 p.m. Mr. H. Williams on "Let's Talk Things Over."

FINCHLEY BRANCH, PHARMACEUTICAL SOCIETY, Selborne Hall, The Green, Southgate, London, N.14, at 7.30 p.m. Dance and buffet.

LEICESTER BRANCH, INSTITUTE OF PACKAGING, Belmont hotel, De Montfort Street, Leicester, at 7,30 p.m. Mr. G. Ratcliffe-Genge on "So the Chairman's Wife Likes Pale Blue Packs— Docs She?"

LINCOLN BRANCH, PHARMACEUTICAL SOCIETY, BOOTS Library, Clasketgate, Lincoln, at 7.30 p.m. Mr. C. W. Robinson (Evans Medical, Ltd.), on "Pharmacists in Industry."

LONDON SECTION, CHEMICAL SOCIETY, Society's rooms, Burlington House, London, W.1, at 7.30 p.m. Presentation of papers on "Stereochemical Control in Oxidative Cyclisation,"
"A New Group of Antibiotics" and "Roten-

oids and their Relatives."

LONDON SECTION, ROYAL INSTITUTE OF CHEMIS-TRY, South-east Essex Technical College, Longbridge Road, Dagenham, Essex, at 6.30 p.m. Dr. S. I. Levy on "Chemical Patents." ROMFORD BRANCH, PHARMACEUTICAL SOCIETY, visit

to St. Martins theatre, London, to see "Guilty Party."

STIRLING AND CENTRAL SCOTTISH BRANCH, PHAR-MACEUTICAL SOCIETY, Regal cafe, Stirling, at 7.45 p.m. Sir Hugh Linstead, M.P. (a secretary of the Pharmaceutical Society) on "The Cost of the National Health Service."

WOLVERHAMPTON BRANCH, PHARMACEUTICAL SOCI-ETY, Vietoria hotel, Wolverhampton, at 7.30 p.m. Annual dinner and dance.

Friday, October 20

CROYDON BRANCH, PHARMACEUTICAL SOCIETY AND PHARMACISTS' ASSOCIATION, Greyhound hotel, High Street, Croydon, at 8 p.m. "Post Script"—an informal talk by Mrs. G. R. Roves.

LONDON SECTION, INSTITUTION OF THE RUBBER INDUSTRY, North Suite, Victoria Halls, Bloomsbury, London, W.C.1. Autumn dance.

SCOTTISH SECTION, SOCIETY FOR ANALYTICAL CHEMISTRY, chemistry department, Aberdeen University, at 4 p.m. Presentation of papers on "Stannous Acctate as a Primary Standard "; "Some Seldom-remembered Aspects of Analytical Technique" and "The Analytieal Chemistry of Technetium and Rhenium."

SOUTH-WESTERN BRANCH, INSTITUTE OF PACKAG-ING, Royal hotel, College Green, Bristol, 1, at 6.45 p.m. Discussion panel on "Odour in Packaging."

Saturday, October 21

YORKSHIRE BRANCH, GUILD OF PUBLIC PHARMA-CISTS, Pinderfields General Hospital, Wakefield, at 3.30 p.m. Mr. T. Heseltine (a member of Council) on "The Pharmaceutical Society's Benevolent Fund."

Advance Information

MEDICAL EXHIBITION, Royal Horticultural Society's New Hall, Westminster, London, S.W.1. November 13-17.

PRINT AND PUBLICITY

PRESS ADVERTISING

NEVILLE BROWN & Co., LTD., 93 New Cavendish Street, London, W.1: Aldis projectors 303, XT150, XT330. In Daily Express, Sunday Express, Daily Mail, Daily Telegraph, Financial Times, Sunday Times.

PHILLIPS, SCOTT & TURNER, St. Mark's Hill, Surbiton, Surrey: Coldrex. In Daily Express, Daily Herald, Daily Mail, Daily Mirror, Daily Telegraph, News of the World, People, Glas-

gow Sunday Post, Belfast Telegraph.

PIFCO, LTD., Pifco House, Watling Street, Manchester, 4: Pifco electric blankets, vibratory massagers, hairdryers, electric shavers. In Daily Express, Daily Mail, People, Sunday Express, Good Housekeeping, Woman's Journal House and Gardens, and Modern nal, Homes and Gardens, and Modern Woman.

PUBLICATIONS

Periodicals

E. I. DU PONT DE NEMOURS & Co., Wilmington, Delaware, U.S.A.: Dupont magazine. Vol. 55, No. 3. Pp. 32.

THE INTERNATIONAL NICKEL CO. (MOND), LTD., Thames House, Millbank, London, S.W.1: Inco-Mond magazine. No. 18, Pp. 32.

Kodak, Ltd. (Industrial and Professional Sales division). Kodak House, Kingsway, London, W.C.2: Kodak Professional News. No. 6. September. Pp. 20.

Booklets and Leaflets

IMPERIAL CHEMICAL INDUSTRIES, LTD. (General Chemicals division), Imperial Chemical House, Millbank, London, S.W.1: Leaflet MD/T8trichloroethylene degreasing plant type H with built-in lift, Pp. 8.

Catalogues

G.B. FILM LIBRARY (Rank Precision Industries, Ltd.), 1 Aintree Road, Perivale, Middlesex: Entertainment catalogue of 1,500 feature films and shorts (16-mm.), 1961-62. Pp. 148.

R. F. HUNTER, LTD., 51 Gray's Inn Road, London, W.C.1: Catalogue 1961-62. Pp. 96. (Price

ls.) Includes three charts that indicate different screen sizes for projection of cine film and transparencies.

KODAK, LTD., Kodak House, Kingsway, London, W.C.2: Kodak Wratten filters, and other filters—" a reference book for photographers, industrial and scientific laboratory technicians and others who require information concerning the selective absorption of light." 2nd, edition. Pp. 90.

MAY & BAKER, LTD., Dagenham, Essex: "Volucon standard volumetric concentrates "-- a new range of pre-standardised solutions in ampoules. Pp. 4.

Medical Propaganda

Manufacturers' leaflets, folders, booklets, etc., directed to doctors but available to pharmacists,

PHARMETHICALS (LONDON), LTD. (Schering, A.G., Berlin), Victoria Way, Burgess Hill, Sussex: "Primolut-Depot" (2-p. leaflet).

ROCHE PRODUCTS, LTD., 15 Manchester Square, London, W.1: "Asterol . . . for tinea pedis," "Librium . . . the successor to the tranquillisers" (4-p. folders).

COMMERCIAL TELEVISION

Figures in the columns represent number of appearances of the product during the week.

October 22-28		condon	Midland	North	Scotland	Wales	South	Z E	Anglia	Ulster	Westward	Border	Grampian
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Anadin	• • • • • •	8	_	1	_	_	_		4	_	_	4	_
Andrews liver salt	• • • • •	3	3	3	3	2	2	2	2	3	2	2	2
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Chandau hair Iacquer		3		_	_				_	-4			
Coldene cough remedy		_	3	-		3			_		_		
Coldrex		3	3	3	3	3	3	3	3	3	3	3	3
Cooper's aerosols		2	2	2	2	2	2	2	2	2	2	2	2
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Delsey		2		2	_	3	_	_	-	_	2	_	_
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Euthymol		1	_	_	1		-	_	1	2	_	2	2
Farley's milk food		1	1	1	1	1	1	1	2	-	_	_	
Goddard's embrocation		-	3	-	_	-	1	-	_	_	_	_	
Horlieks		6	7	4	2	6	4	4	6	5	2	2	2
Kleencx		5	3	2	3	3	4	1	4	4	2	4	3
Loxene hair eream		2	3	3	2	3	3	2	3	2	3	3	3
shampoo		2	4	2	3	3	3	1	3	3	3	3	3
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Schick shavers		1	1	_	_	_	_	_	_	_	_	_	
Silvikrin pure		_	1	2	_	_	_	-			-	_	-
hair eream		1	2	2	2	2	3	2	3	1	1	2	_
shampoo		3	2	2	3	4	2	3	2	3	3	3	4
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Steradent		2	2	1	1	1	1	1	1	1	1	-	
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VO-5 hair spray		2	3	2	1	_	_	—	-	·	_	-	_
Vosene	• • • • •	_	-		_		_	-	-		_	1	_
Wright's coal tar soap	• • • • •	2		-		_		-	-		_	_	

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," September 27 For soaps, perfumes, non-medicated toilet preparations, essential oils, cosmetics, preparations for the hair, dentifrices and toilet articles (3) COMANCHE, B817,395, by Balfour Laboratories, Ltd., Sheffield, 9.

For preparations and substances for laundry purposes; detergents (not for use in industrial or manufacturing processses) and soaps; and cleaning, polishing, scouring and abrasive preparations

(3) VIM, 823,217, by Lever Brothers, Port Sunlight, Ches.

For perfumes, non-medicated toilet preparations, cosmetic preparations, soaps and essential oils (3) HARRIET HUBBARD AYER, 819,784, by

Harriet Hubbard Ayer S.A., Paris, France, For cosmetics, perfumes, and non-medicated toilet

INTUITION, 823,284, by Merton Jan Behrman,

Harrow, Middlesex. For pharmaceutical preparations and substances.

all for veterinary use (5) VETIBINZIMINE, B793,876, by CIBA, Ltd., Basle, Switzerland.

For all goods (5)

RINUREL, 811,562, ROIDEX, 813,742, URA-STRAT, 815,931, by Warner-Lambert Pharmaceutical Co., Morris Plains, New Jersey, U.S.A. NOSTROSOL, 820,871, by Fletcher, Fletcher & Co., Ltd., London, N.7. CAROVAX, 822,754, Wellcome Foundation, Ltd., London, N.W.I.

For pharmaceutical, veterinary, sanitary and disinfectant preparations and substances, all being goods for export except to the United States of America and the Union of South Africa (5)

WINTHROP, 797,930, by Winthrop Products. Ltd., Surbiton, Surrey.

For pharmaceutical preparations and medical diagnostic reagents for use in detecting and controlling the presence of sugar (5)
ORMEL, 808,814, by Welle

by Welleome Foundation, Ltd., London, N.W.1.

For air-purifying preparations, antiseptics, bandages, cotton wool (pharmaceuticals), deodorants, disinfectants, germicides, insecticides, lint (for medical purposes), medicated paper, moth-repelling preparations, medicated ointments, medical and surgical plasters, and sedatives (5)

Device with word PROVA, 812,358, by British Home Stores, Ltd., London, N.W.1.

For catamenial appliances (5) CONFIDETS, 815,396, by Chester, Pennsylvania, U.S.A. by Scott Paper Co.,

For preparations for killing weeds (5)

FENATROL, 815,486, by Amchem Products, Inc. Ambler, Pennsylvania, U.S.A.

For pharmaceutical preparations and substances for human use, all for use in the treatment of eczema (5)

ECZAPAK, 815,737, by Winthrop Group, Ltd., Surbiton, Surrey.

For medicated dressings (5)

MORRMEL, B819,048, by James Woolley, Sons & Co., Ltd., Salford, Manchester.

CONTEMPORARY THEMES

Subjects of contributions in current medical and technical periodicals

10-METHOXYHARMALAN, A potent serotonin which affects conditioned behaviour. Science, Septem-

THALIDOMIDE, Neuropathy after intake of, Brit, med. J., September 30.

PROGESTERONE and Norethisterone in cyclical oedema and aseites. Brit. med. J., September 30.

POLIOMYELITIS. Purified virus vaccine, J. Amer. med. Ass., September 2,

VITAMIN B12. Intestinal bacteria and the absorption of, Lancet, September 30.

Aerosol shave creams, Evaluating, Drug and Cosmetic Ind., September.

Antibacterials, stability of in polyethylene glycol mixtures. J. Pharm. Pharmacol., October. Atropine. Breakdown of by bacteria. J. Pharm.

Pharmacol., October.

Antitrichomonal agents. J. Pharm. Pharmacol., October.

EFFECTS of 3-methylcholanthrene and phenobarbital on amino acid incorporation into protein. Science, September 1.

A NEW MULOLYTIC AGENT by aerosol for inhalation in chronic bronchitis, Lancet, October 7. DRUG NAMES, economic aspects of, Amer, J. hosp. Pharm., August.

PATENTS

COMPLETE SPECIFICATIONS ACCEPTED From the "Official Journal (Patents)," October 4

4-substituted-4-phenyl-piperidines and processes for preparation thereof, Karl Thomas, G.m.b.H. 882,891.

Phenothiazine-derivatives, Delmar Chemicals, Ltd., 882,894.

Germicidal composition. Carlen Corporation. 882,860.

3-substituted-3-pyrrolidinols. Mead Johnson & Co. 882.813.

Anhydrous germicidal compositions, Chesebrough-Ponds, Inc. 882,742.

N.N'-substituted piperazines. Laboratoire Sapos. 882,013.

Glucuronic acid derivatives useful as intermediates in the production of said derivatives, Chugai Seiyaku Kabushiki Kaisha, 882,843.

Regeneration of anion-exchange resins. Du Pont De Nemours & Co. 882,072.

Refining of alcohols, Monsanto Chemical Co. 882,946.

Dry effervescent concentrates, H. Brout, 883,169. Absorbent material and process for making same. E. P. Barrett. 883,031,

Phenotic antioxidants. Distillers Co., Ltd. 883,033. Iron-complex salts, their manufacture and parations containing them. CIBA, Ltd. 882,987. Process for the production of carboxylic acids, Shell Internationale Research Maatschappij.

883.142. Process for producing monobromacetic acid and derivatives thereof. A. Schwerdle and M. L.

Schwerdle, 882,854. Method of purifying naphthalene, American Cyanamid Co. 883,042,

Process for preparing cyclohexylsulphamic acid and cyclohexylsulphamates. Abbott Laboratories, 882,952.

Vitamin-A esters and a process for the manufacture thereof. F. Hoffmann-La Roche & Co., A.G. 882,768.

Glucuronic acid derivatives useful as intermediates in the production of antibacterials, and the production of said derivatives, Chugai Seiyaku

Kabushiki Kaisha, 882,844. Potassium fertilisers, Kaliwerk Stassfurt Veb.

882,996. Separation of sterols. Upjohn Co. 883,058.

Stoppers. British Vacuum Flask Co., Ltd., and M. A. Hassid, 882,887.

Process for making alkali metal metaborates and compositions containing same. United States

Borax & Chemical Corporation, 882,972. Multi-ply paper sack with barrier surface, Bowater Research & Development Co., Ltd. 883,069.

Hypodermic needles, H. P. Schofield, 883,115. British patent specifications are obtainable (price 3s. 6d. each) from the Patent Office, 23 Southampton Buildings, Chancery Lanc, London, W.C.2.



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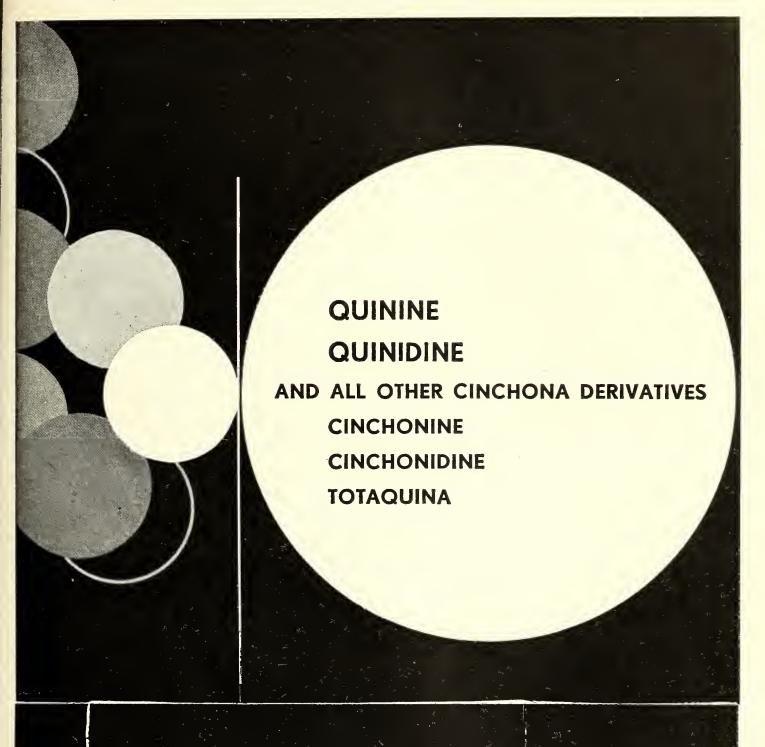


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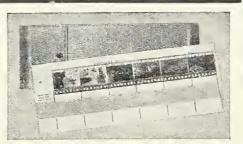
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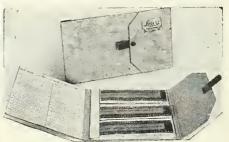
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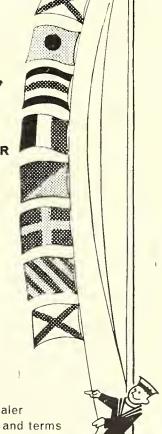
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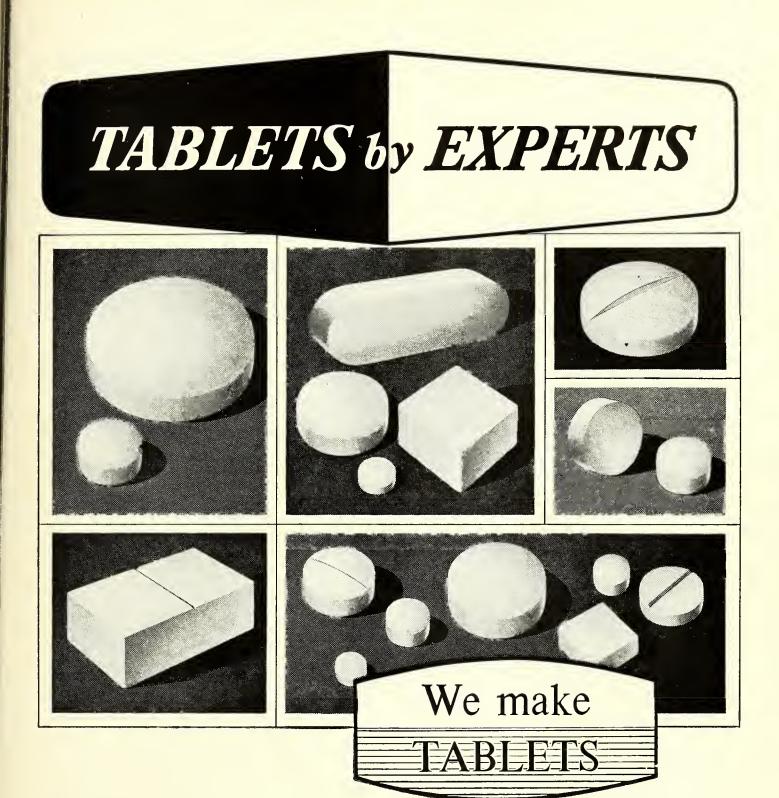


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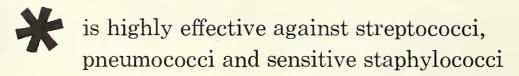
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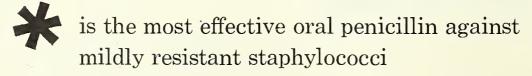
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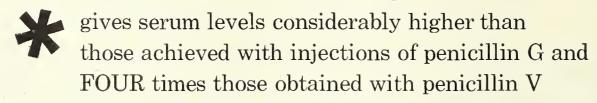
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The cost of oral diuretic therapy is now even lower. Increasing demand makes possible further reductions in the prices of these important products:

ADDIMOV	BENDROFLUAZIDE Basic NHS	prices
APKINUX	APRINOX TABLETS 5 mg. 100 15/3 (5 mg. bendrofluazide) APRINOX TABLETS 2.5 mg. 100 9/3 (2.5 mg. bendrofluazide)	500 74 3 500 41 6
HYDRENOX	HYDROFLUMETHIAZIDE HYDRENOX TABLETS 100 19/3 (50 mg. hydroflumethiazide) HYDRENOX-M TABLETS 100 11/6 (25 mg. hydroflumethiazide)	500 92 9 500 52:-
ABIGOL	RESERPINE PLUS BENDROFLUAZIDE ABICOL TABLETS 100 11/9 (0.15 mg. reserpine plus 2.5 mg. bendrofluazide)	500 53 6

A claim form is being posted

The medical profession is being advised of these important reductions.

ORDER NOW FROM YOUR USUAL WHOLESALER

or from WHOLESALE DIVISION, BOOTS PURE DRUG COMPANY-LIMITED, STATION STREET, NOTTINGHAM TEL: 56111 or 71 FLEET STREET, LONDON E.C.4 TEL: FLEet Street 0111,

C带ANDAU takes to Television!

CHANDAU hair lacquer

already nationally established—takes a leap forward with TV advertising.

From now until December CHANDAU HAIR LACQUER will be extensively advertised

on TELEVISION

AND on Radio Luxembourg
AND in the National Press

CHANDAU advertising will be

SEEN by 10,716,000 women HEARD by 6,200,000 women READ by 8,972,000 women

WOMEN are taking to CHANDAU

TAKE your share of record CHANDAU sales by stocking up



CHANDAU

hair lacquer

Hair Lacquer Aerosol	6/11
Hair Lacquer Squeeze Pack Extra Large Siz	e 4/3
Refills	2/6
Hair Lacquer Squeeze Pack Junior Size	2/6
Refills	1/6

T. L. BENTON & CO. LTD.,

186 Seven Sisters Road, London, N.7 Telephone: ARChway 2674











packs

the finest value in fluorescent lighting

Complete 5 ft. 80w. snap-start unit for only

£4.66

Lively, bright, modern lighting: that's what brings business. And with SLIM JIM better lighting costs so very little.

Every SLIM JIM pack contains one of these completely new units all ready to light up; there is a full range, with choice of attractive reflectors. Make your lighting really modern the inexpensive way—with SLIM JIM. Ask your contractor or dealer for full details now.

Lighting & Heating Group The General Electric Co. Ltd Magnet House, Kingsway, WC2



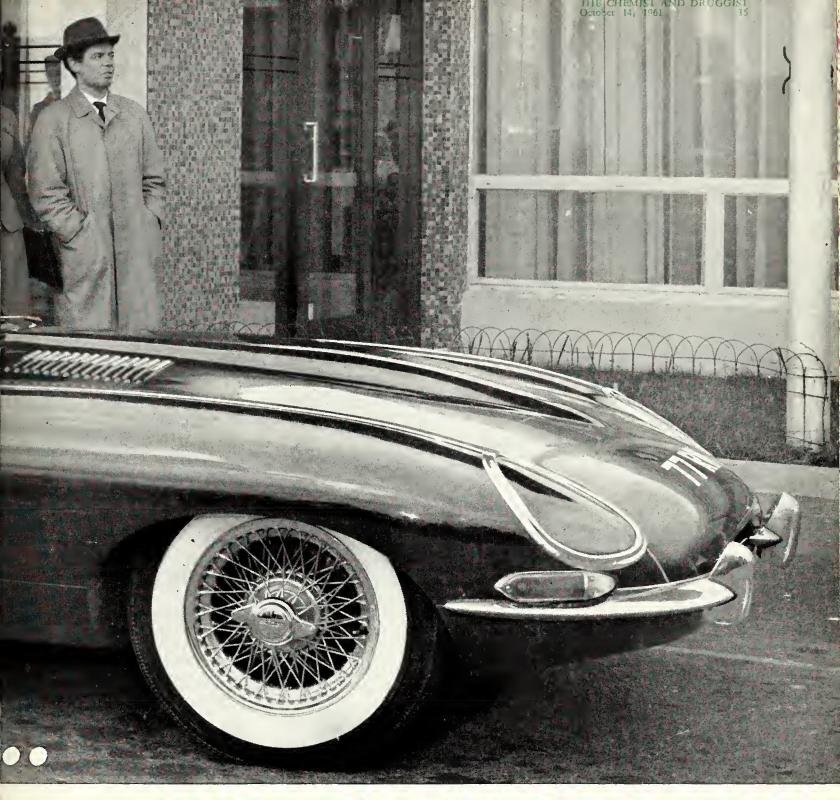
...and so has the LOXENE Hai

THE BEST HAIR CREAM
CAN GIVE YOU
PLUS FREEDOM
FROM DANDRUFF!

F. W. HAMPSHIRE & CO. LTD., SUNNYDALE, DERBY.

URGENT ORDERS: TELEPHONE DERBY 22202/4 (3 LINES)





ream AUTUMN T.V. CAMPAIGN

tarts October on all stations! frequent 0-second commercials





"Wear it where it hurts"

BRAND NEW PACK!

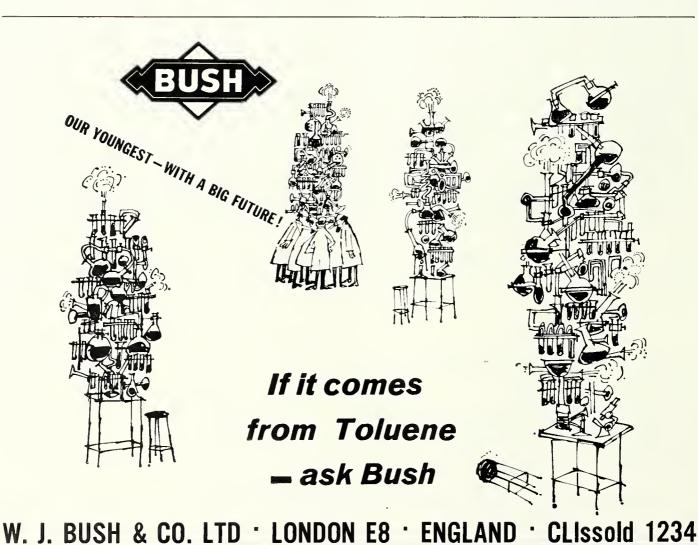
Here come DOLS' FLANNEL impregnated sectionals in smart new red and white packs. A comprehensive advertising campaign will tell more sufferers to "Wear it where it hurts". Made from finest quality pure wool—a truly reliable treatment for Rheumatism, Lumbago, Sciatica, Fibrositis and for bronchial and chest complaints. Now is the time to ensure adequate supplies . . . display DOLS' FLANNEL prominently . . .

SHOW IT WHERE IT SELLS!

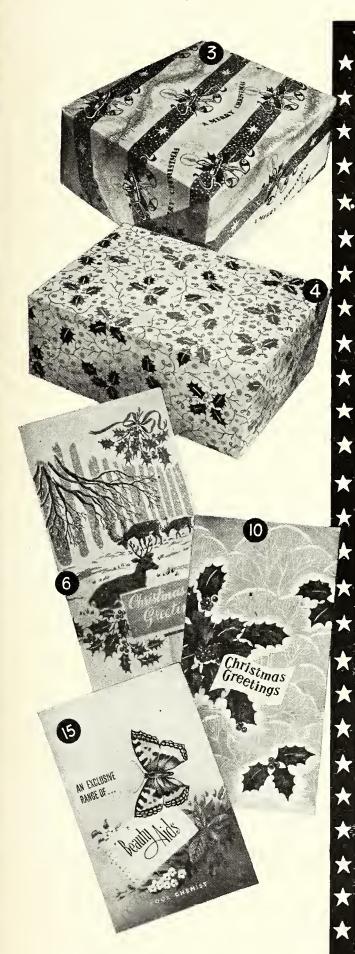
From wholesalers or direct from;

DOLS' VOLATALISE FLANNEL LTD.

P.O. Box A.3 Huddersfield



No. 4



Buy your

CHRISTMAS WRAPPINGS NOW!

10% DISCOUNT OFFER

Gay, seasona, papers of the finest quality, specially designed for the pharmacy. Each printed in four colours.

No. 1 COACH & HORSE DESIGN
Sheets, 20" x 30" 31/9

No. 2 STAG DESIGN Sheets, 20" x 30" 30/6

No. 3 SNOWFLAKE DESIGN Sheets
(Illus.) 20" x 28" 28/0

HOLLY DESIGN Sheets (Illus.) 20" x 28" 22

 $\frac{25/3}{115/6}$

LESS 10% DISCOUNT 104/0

COUNTER ROLLS. The Holly Design is also available in counter rolls, 14" wide, 700 yds., and 20 lbs. weight approx. Per roll 59/6

DISCOUNTS ON CHRISTMAS COUNTER SATCHELS. THREE ATTRACTIVE DESIGNS

No. 6 DEER DESIGN Four colours (Illustrated) $5'' \times 7'' \times 9_2^{1}''$. Other sizes: No. 6B $4'' \times 5_4^{3}'' \times 7_2^{1}''$. No. 6A $6'' \times 8_2^{1}'' \times 12''$.

No. 10 HOLLY DESIGN Photogravure; three colours. (Illustrated) $5'' \times 7'' \times 9\frac{1}{2}''$. Other sizes: No. 10B $4'' \times 5\frac{3}{4}'' \times 7\frac{1}{2}''$; No. 10A $6'' \times 8\frac{1}{2}'' \times 12''$.

No. 8 COACH & HORSE DESIGN. Three colours. $5'' \times 7'' \times 9^{1}_{2}''$

Special Composite

NO. 1 OFFER Assortment of 4500 of all the above sizes and designs

NO. 2 OFFER Assortment of No. 6 series (1750 Satchels)

NO. 3 OFFER Assortment of No. 10 series (1750 Satchels)

41/0
49/0

DISTINCTIVE BEAUTY-AID BAGS

No. 15 Beauty-Aid Bag. (Illustrated). Delicate Butterfly design. Four-colour photogravure.

per 1000

* The Certor range of counter satchels offers to the chemist a wide selection of both general—and special-purpose bags. These are quality satchels of exclusive designs, well printed and finished, on high-grade paper. Expert designers have collaborated in the designs.

MACDONALD & SON LTD., Portland Mill, Ashton-under-Lyne, Lancs · 25 Holywell Row, London, E.C.2

A. HIELDS & SON

Gent's Hairdressers & Tobacconists

TELEPHONE 22571

THE MOST LUXURIOUS and HYGIENIC SALOONS In the CITY ...

10 CAMPO LANE SHEFFIELD · 1



Dear Sirs,

Once again I have to repeat my order for Jochem's (1 dozen). Would you please, for the record, let me know how many dozen bottles of this amazing Preparation I have sold over the past six years or more? At times I have even had to purchase odd bottles from the wholesalers to meet my demands. This record proves, I'm sure, the results my clients are getting from Jochem's Hormone Preparation.

Thanking you,

"Jochem's . . . amazing preparation • .. my clients are getting results"

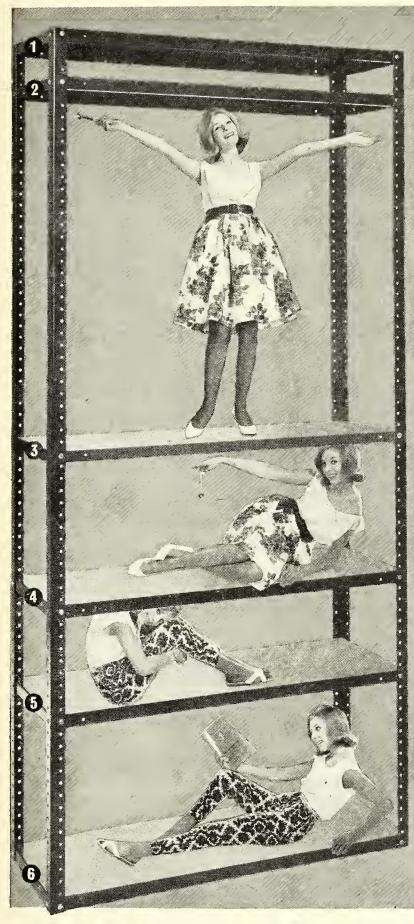
> We often get letters like this telling of the success of Jochem's Hormone Preparation, the amazing Dutch product which revitalizes the hair and stimulates new growth. Mr. Hields has had 384 bottles since 1957, and that's without those he bought from wholesalers. Countless hairdressers testify to the results their clients have obtained by the use of this truly remarkable preparation. Available from all wholesalers. Fully detailed literature gladly sent on receipt of a post card.

ochem's Wonderful Dutch HAIR PREPARATION

PRICES: Single bottles 9/8d. (plus P.T.) 12 bottles £5. 10. 0. (plus £3. 3. 10. P.T.) To retail at £1 (including P.T.) per bottle

BEAUTISALES LTD.,

35 Old Bond Street, London W.I Telephone: HYDe Park 2565-6



OTEEL SHELVING

72" high 34" wide, 12" deep Stove enamelled dark green

STRONG

Heavy gauge steel
Each shelf will carry 400lb
distributed weight

ADJUSTABLE EVERY INCH

Six shelves per bay Extra shelves 8/- each

COMPLETE BAY ONLY

£3-15-0

Delivered FREE in U.K. Available in white at £5 per bay

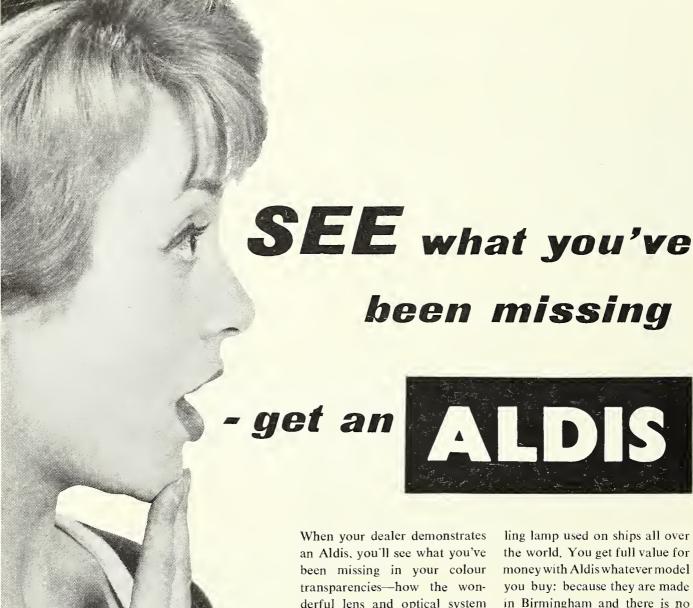
OTHER SIZES AVAILABLE

N. C. BROWN LTD

SHELVING DIVISION · EAGLE STEELWORKS · HEYWOOD · LANCS

Telephone: Heywood 69018 (6 lines)

London Office: 25 Newton St., Kingsway, W.C.2 Telephone: HOLborn 7931



derful lens and optical system brings out the best in every picture. You'll see more than this: you'll see for yourself the fine workmanship that makes every Aldis as strong and reliable as the famous Aldis signalin Birmingham and there is no import duty, prices are most reasonable. Sales are not stimulated artificially by means of excessive retail discounts-your dealer sells Aldis because he knows it's the best.

WORLD'S FINEST COLOUR SLIDE PROJECTORS



See also the remote control automatic ALDIS XT 360, and ALDIS tripod projection screens.

ALDIS XT 150

Automatic magazine projector with finger-tip operation of slide-changing lever and back spacer (selects slides out of sequence). Magazine takes 30 2 in. x 2 in. or Super slides. 8,5 cm. f/2.5 lens. 150 w. illumination. Robust carrying handle, polystyrene protective cover. 150 w. valve base lamp (extra) £1.10.0 5pare magazines 10/- each

£17.19.6

ALDIS XT 330

Fully Automatic magazine projector, power-operated remote controls for focusing and sl.de changing. Magazine takes 30 2 in. x 2 in. or 5uper 5lides. 8.5 cm, f/2.5 lens, 300 w, illumination with powerful fan cooling. Complete with carry-cover.

300 w. valve base lamp (extra) £1.17.6 Spare magazines 10/- each

£38.17.6

ASK YOUR PHOTO DEALER TO DEMONSTRATE

Sole Wholesale Distributors NEVILLE BROWN & COMPANY LIMITED . LONDON .







'SANATOGEN' TONIC WINE SOLE DISTRIBUTORS: WHITEWAYS CYDER CO. LTD., WHIMPLE, DEVON

London Office: Glass House Walk, Vavxhall, S.E.11

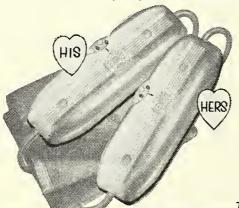
Sleeping Beauty is wide-awake to 1962 trends!

Now you can offer a doublesize electric blanket with DUAL VARIABLE HEAT CONTROL

BUT AT A PRICE THAT WIDENS YOUR MARKET!

With trade trends swinging fast to full variable heat control Rogerson Page Ltd., have entered the electric blanket market with the most competitive priced double blanket, with dual control and with the safety features backed by top quality. Here is a sure seller that meets all the public demands at the price they can afford. Now for the first time is a real opportunity to make electric blankets one of your most profitable selling lines. Order now and get your full share of this growing business.

Double Bed Size—60" x 48" Fitted with Dual 'Ceetherm' Variable Heat Controls. £11.11.0 plus 3/4d. SURCHARGE P.T. Single Bed Size—60" x 30" Fitted with 'Ceetherm' Variable Heat Control. plus 1/9d. SURCHARGE P.T.



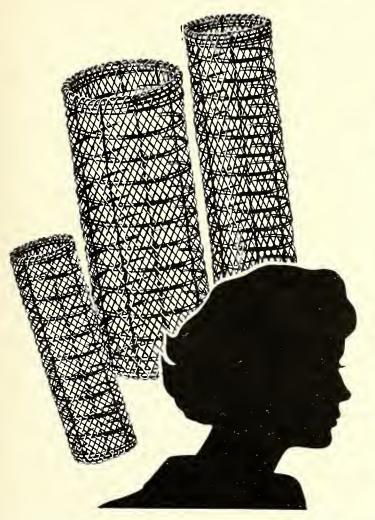


FULL ADVERTISING SUPPORT

IDEAL HOME MODERN WOMAN
HOME GOOD HOUSEKEEPING
EVERYWOMAN HOUSE BEAUTIFUL
HOUSEWIFE HOMES & GARDENS

THE new Rogerson Page





TOP-SELLING

Comby

HAIR ROLLERS! Now cost less!

In order to absorb the surcharge on Purchase Tax, prices of Comfy Hair Rollers have now been REDUCED. Already best-sellers in their thousands, Comfy Hair Rollers also get the added boost of colourful new counter display cartons. The quick-turnover sales of Comfy Rollers, especially those with the crystal nylon brush, will soar even higher when women see this compelling display. Don't miss your chance of extra year-round profits—even more now prices are DOWNi

Order NOW from your usual wholesaler

COMFY CURLERS

let us quote you:-



VITAMINS:—

ACID FOLIC U.S.P.
ANEURINE HYDROCHLORIDE B.P.
ANEURINE MONONITRATE PURE
PYRIDOXINE HYDROCHLORIDE B.P.
ASCORBIC ACID B.P.

PHENOBARBITONE AND
PHENOBARBITONE SODIUM B.P.
ICHTHAMMOL B.P.
PURE VIRGIN MERCURY 99.9%
SORBITOL SYRUP 70%

Inquiries for other Pharmaceuticals are invited.
Prompt attention given.

Exclusive Agents for the United Kingdom of the Osterreichische Ichthyol-G.m.b.H. Seefeld/Tirol. Austria. (Austrian Ichthammoi Works Ltd.)

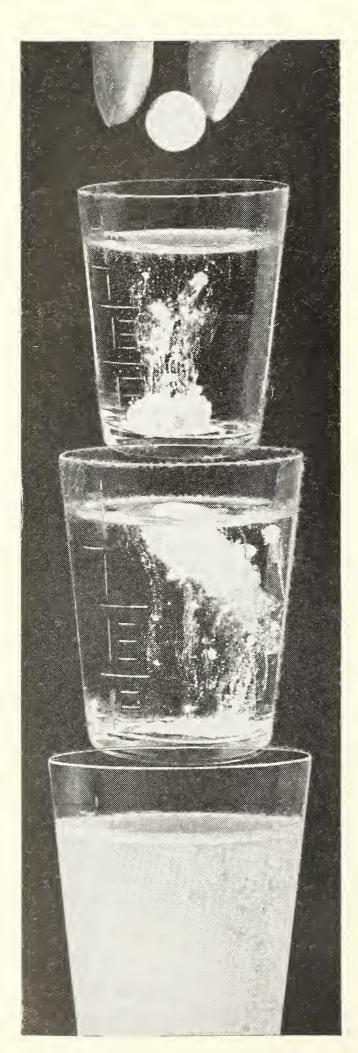
Takeda Chemical Industries Ltd., Tokyo, Japan

FERRO METAL & CHEMICAL CORP. LTD

Importers and Exporters of PHARMACEUTICALS and RAW MATERIALS
VICTORIA HOUSE, VERNON PLACE, SOUTHAMPTON ROW

Cables: FERROMETAL, LONDON Telephone: CHAncery 6961 (3 lines)

LONDON, W.C.I



Solprin



NEUTRAL SOLUBLE ASPIRIN



SOLUBLE ASPIRIN, PHENACETIN AND CODEINE



SOLUBLE ASPIRIN, PHENACETIN AND CAFFEINE

Their place to-day

General acceptance won by Solprin, Codis and Cafdis is due to their aspirin content being soluble and substantially neutral. Consequently, all three are quick acting and are far less likely to upset the stomach.

Medical opinion to-day is overwhelmingly in support of soluble aspirin. This is why doctors prescribe Solprin, Codis or Cafdis, and this is why the chemist dispenses them so often.

RECKITT & SONS LTD. PHARMACEUTICAL DEPARTMENT, HULL

SEND YOUR BLANKET SALES SOARING

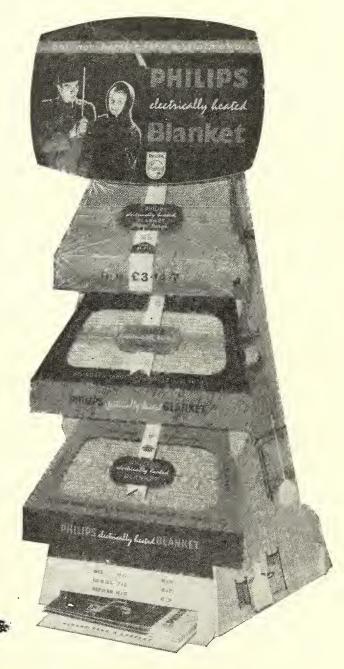


with this
Free Display &
Leaflet Dispenser

Big TV advertising will create a bigger-thanever demand—and this display will bring you bigger-than-ever sales. For your free display, simply ask your usual wholesaler, nearest Philips Regional Office, or Publicity Department at the address given below.

It features the whole range of Philips Electrically Heated Blankets. Prices from as little as £3.14.7d.

Customers can help
themselves to the attractive new
leaflet about Philips Electrically
Heated Blankets.





PHILIPS—the friend of the family

PHILIPS ELECTRICAL LTD., CENTURY HOUSE, SHAFTESBURY AVENUE, LONDON W.C.2

A new money spinner!

CREME FOR MEN

First again! Inecto, the leading manufacturers in the field of hair colouring, are now the *first* to announce a range of permanent tints specially created for men. Designed to give complete coverage to grey or white hair, Inecto Creme for Men is already much in



demand in an age whose accent is on youth but whose stress and strain sends many men grey before their time.

As simple to use, as reliably effective as that tried-and-tested favourite, Inecto Creme for the ladies, Creme for Men is bound to be a sure-fire success. Make sure of your share in this *new* business by stocking up with Creme for Men right away. It comes in six sensible shades, packed in eye-catching and very masculine cartons.

Wholesale: 5/5 inc. P.T. * Retail: 7/2

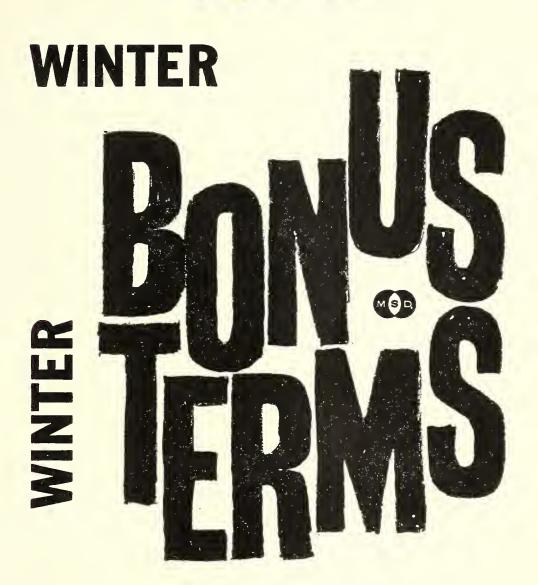
Advice Bureau: INECTO HOUSE, 27 DOVER STREET, LONDON, W.I. HYDe Park 7541

Edible Bone Phosphate

Full particulars, samples and prices from Calfos Ltd. Berkshire House, 168/173 High Holborn, W. C.1 Telephone: Temple Bar 7777

NOW AVAILABLE

TYROZETS Regd SUCRETS Regd



LIMITED PERIOD ONLY!

Winter bonus offers are available <u>now</u> for these two famous lozenges. The terms for 'Tyrozets' are most generous, and on 'Sucrets' the offer is also very attractive.

If you have not already had details, please let us know without delay.

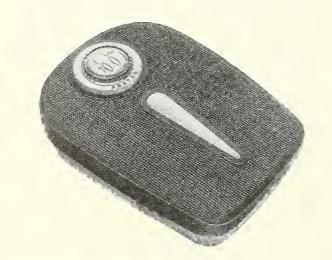
Made in England by



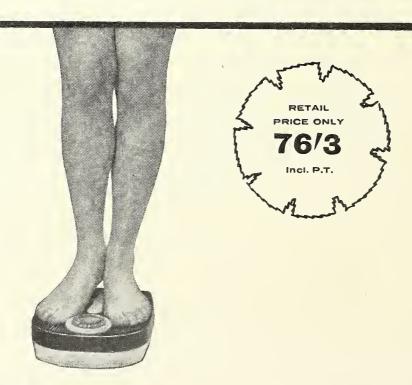
MERCK SHARP & DOHME LIMITED, HODDESDON, HERTS



The modern weigh is to sell a MAYFAIR every day



THE "MAYFAIR" PERSONAL WEIGHER No. 206 is a good looking, efficient, economically priced weighing machine. Available in various attractive colours—white, powder blue, April pink, spring green or pale primrose. It is the ideal machine for regular weighing in the privacy of one's own home. The "Mayfair" is being backed by regular advertising in the national Women's journals and T.V. STOCK and SELL the "Mayfair"—NOW!





Geo. Salter & Co. Ltd., West Bromwich

Est. 1760

ON

BE READY FOR EVEN BIGGER SALES THAN LAST YEAR!

Sales last year made it clear that in new improved Liqufruta you have a fast-moving profitable line. Liqufruta's pronounced success is soundly based on its proved effectiveness in bringing prompt and positive relief from coughs, congestion, catarrh, hoarseness and similar discomforts.

There is every reason to carry ample stocks of Liqufruta. Last year many chemists missed valuable sales through being short stocked. Liqufruta's generous bonus offer makes it good business to place an order NOW and earn even better profits!

INCREASED ADVERTISING IN NATIONAL AND SUNDAY PRESS

Large-scale hard-hitting advertisements will appear regularly in these important papers with a combined

"PER-ISSUE" CIRCULATION OF OVER 28,000,000 COPIES:

- * DAILY EXPRESS
- * DAILY MAIL
- * PEOPLE
- * DAILY HERALD
- * SUNDAY PICTORIAL * GLASGOW SUNDAY POST
- * DAILY MIRROR
- * SUNDAY EXPRESS

These papers penetrate into practically every home in the country and will convey the Liqufruta message over and over again all through the winter. In the London area there will also be extensive transport advertising to remind people about Liqufruta as they travel to and from work.

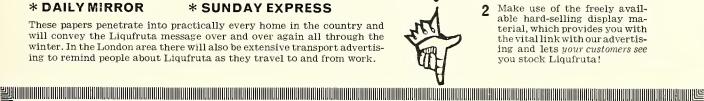


HOW TO ENSURE

SUBSTANTIAL EXTRA SALES

WE are sparing no effort to step up demand for Liqufruta. YOU can reap maximum benefit for yourself in two ways:

- 1 Make certain you will not lose sales through being out of stock!
- Make use of the freely available hard-selling display material, which provides you with the vital link with our advertising and lets your customers see you stock Liqufruta!



SPECIAL BONUS OFFER!

(valid only until 31st October, 1961)

1 FREE BOTTLE* IN EVERY DOZEN

with every three dozen Liqufruta Standard (large or small) and/or every two dozen Liqufruta Medica (large or

* FREE OF TAX TOO!

PRICES

	STANDARD	MEDICA	
SMALL 17/4 per dozen plus P.T. 4 9		20/3 per dozen plus P.T. 5/7	
LARGE	37/3 per dozen plus P.T. 10 3	39/10 per dozen plus P.T. 10/11	
RETAIL	2 '4 and 5/-	2 9 and 5/4	

ADDITIONAL DISCOUNTS ON PARCEL OFDERS

By ordering other fast-selling Sanitas Group products you can earn substantial additional discounts of up to 20%

SANITAS GROUP SALES LIMITED . SANITAS HOUSE · CLAPHAM ROAD · LONDON SW9

* VIPILAN Lanolin Gream

FOR ELEGANT HANDS & SKIN



- * SPLENDID FORMULATION
- NON-GREASY
- READILY ABSORBED
- ATTRACTIVELY PACKED
 - BACKED BY NATIONAL ADVERTISING

BONUS

3 dozen — 9/-d

6 dozen — 8/9d per dozen

Bonus Terms 12 supplied for the price of 11

Purchase Tax 27½%

DISPLAY & RECOMMEND VI-LAN FOR ELEGANT HANDS & SKIN TO ENSURE PROFITABLE REPEAT BUSINESS

Sample free on request

THORNTON & ROSS

TR 211

DRUGS AND MEDICINAL PREPARATIONS



Drugs and medicinal preparations manufactured in the USSR have won the world acclaim. At present, V/O "Medexport" exports more than 500 items of various medicinal preparations.

The quality of these preparations is fully equal to the requirements of the State Pharmacopoeia of the USSR.

The following medicinal preparations developed in the Soviet Union have been universally recognized: Shostakovsky Balsam, Vaccine of Margoulis-Shubladze, Fosarbin and a number of other medicinal preparations.

Soviet drugs and medicinal preparations may by right be considered to be the best in the world.

Reference books are available immediately on request.



All enquiries to be addressed to:

V/O Medexport Smolenskaja-Sennaja, 32/34 Moscow G-200 USSR
Telephone: G-4-22-84

Color-Glo by L'OREAL the BIGGEST selling

BIGGEST profit making hair colouring

1961
Advertising Campaign
the
BIGGEST ever!

Link up with this biggest ever COLOR-GLO advertising campaign—stock up now and display the eye-catching COLOR-GLO packs and showcards. You're sure of regular repeat sales and bigger than ever profits!

Nation-wide Color-Glo Advertising reaches millions of women every week!

DOMINATING SPACES IN FULL COLOUR AND MONOTONE

in WOMAN, WOMAN'S OWN,
WOMAN'S REALM,
WOMAN AND BEAUTY, SHE,
EVERYWOMAN, HONEY,
MODERN WOMAN,
WOMAN'S MIRROR,
DAILY MIRROR,
and SUNDAY PICTORIAL

<u>គីសាលារាជាសាលាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជាសាលារាជា</u>

Color-Glo is now available in 9 beautiful shades!

DEEP RICH CHESTNUT · WARM CHESTNUT · BLACK TULIP · AUBURN
(Brown Chestnut) (Havana Brown) (Deep Burgundy)

DEEP AUBURN · GOLDEN CHESTNUT · MOLTEN GOLD · DOVE GREY · HONEY BROWN



and the New Color-Glo Sherry Shades

DARK-BROWN SHERRY BROWN SHERRY AMBER-BROWN SHERRY LIGHT SHERRY



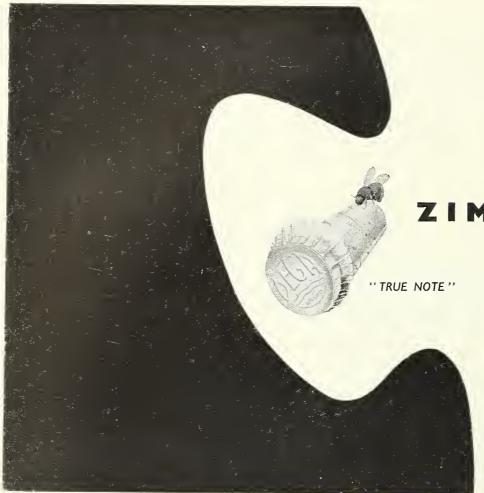
Price 23/4 per doz. bottles, plus tax. Retail 4/- per bottle

SEMI-PERMANENT HAIR COLOURING



Manufactured and Distributed by GOLDEN LIMITED, London, W.I.

Republic of Ireland enquiries to: Lilmar Pharmaceuticals Limited, Santry, Dublin



PERFUME CONCENTRATES

A wide range of floral and speciality bouquets for all classes of trade

TERPENELESS ESSENTIAL OILS

Specialities:-Terpeneless Essential Oils & Concentrates

MERMANN

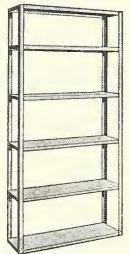
ESSENTIAL OILS

Aniseed Cajuput Clove Peppermint Juniper, etc.

Chas. Zimmermann & Co. Ltd., Dega Works, Walmgate Road Perivale, Middlesex. Phone: Perivale 9121 Glasgow Office: 17 York Drive, Burnside, Rutherglen, Lanarkshire. Tel: Rutherglen 2835

STEEL SHELVING

BRAND NEW HEAVY GAUGE



6ft. HIGH x 34in. WIDE x !2in. DEEP 60/-WITH 6 SHELVES AS ILLUSTRATED

FREE delivery within 14 days. Northern Scotland, Ireland, I.O.M. carriage forward.

SEND CASH OR CHEQUE WITH ORDER, OR C.O.D. ENGLAND AND WALES.

Height	Width	Depth	Shelves	Each	3 or more	Ext. Shelves
6′	34"	12"	6	60/-	58/-	8/-
6′	34"	9"	6	58/-	56/-	7/-
7′	42"	12"	6	86/-	84/-	11/-
7′	34"	12"	6	68/	66/-	8/-

OR ANY SIZE MADE TO ORDER.

Each shelf will hold over 3cwt. Shelves adjustable every 2°

Top quality stove enamelled green finish

WHITE ENAMEL UNITS 30/- EXTRA.

HANDY DRAWER UNIT

BRAND NEW

ONLY

£7-15-0

42" high 13" wide

12" deep.

20 drawers

5" wide 3" high

111" long.

Write now for list

of other sizes.

BUY DIRECT FROM MANUFACTURER

ROCHDALE METAL **PRODUCTS** DEVON STREET WORKS Tel. Rochdale 40070/40078

PHARMACEUTICAL AND FINE CHEMICALS

Adrenaline Benzocaine (Hoechst) Camphor (Hoechst) Dexamphetamine Sulphate B.P. Diastase Digitoxin B.P.C. Folic Acid B.P. Isoprenaline Sulphate B.P. Methylamphetamine Hydrochloride B.P. **Nicotinamide** Nicotinic acid **Pancreatin** Papain **Papaverine** Paracetamol (Hoechst) Pepsin Phenazone (Hoechst) Phenytoin Sodium B.P. **Piperazine** Procaine (Hoechst) Quinidine Resorcin B.P. (Hoechst) Silver Protein Soda aminosalicylate Thymol B.P. Thyroid etc.

MEDICAL SPECIALITIES

Kadamycin, Degalan.

Chas. Zimmermann & Co. Ltd., Dega Works, Walmgate Road, Perivale, Middlesex

Phone: Perivale 9121





SELL your customers FEATURES THAT REALLY MATTER in a projector

optical system incorporating aspheric and plano-convex condensers in conjunction with a silicone monoxide coated reflector and f/2·8 fully coated projection lens collects all the light available and gives an astonishing screen brightness—equal to many projectors using lamps of much many projectors using lamps of much higher wattage.

EXTERNAL LAMP ADJUSTMENT. An exclusive Paterson feature which ensures that the Projector lamp is exactly aligned with the optical system for maximum efficiency and light output.

extra cool running. Big ventilating grille and double thickness heat filter ensure that valuable slides are absolutely safe from heat damage. Slide gate temperature measured by accurate thermocouple reaches only 65° C, after fully warming up.

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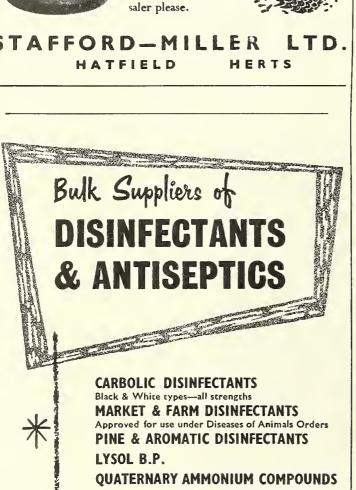
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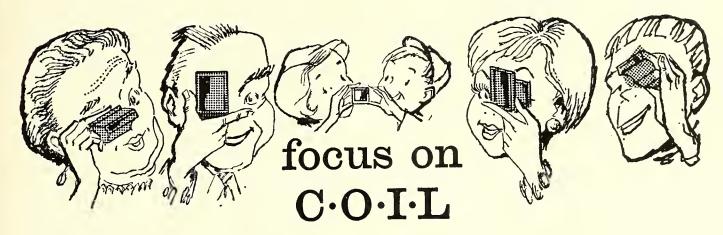
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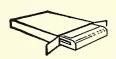
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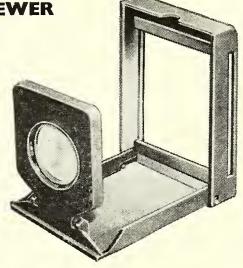
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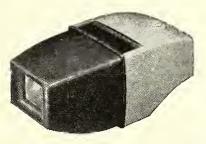


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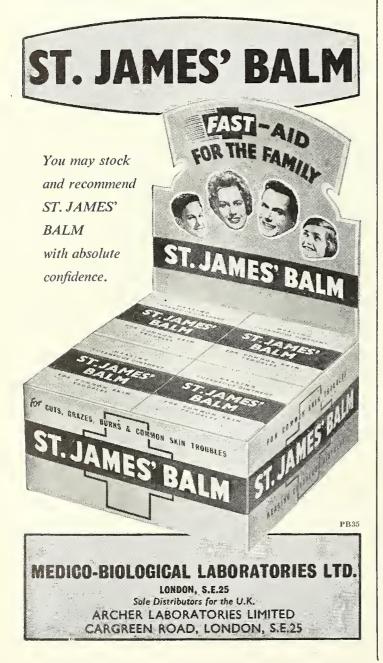
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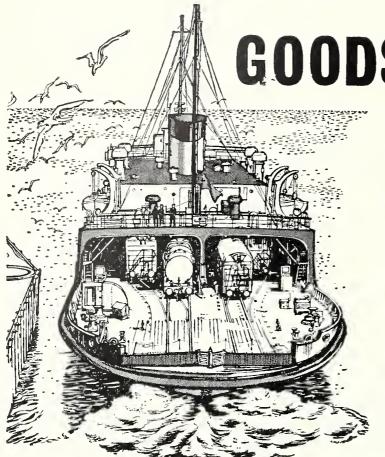
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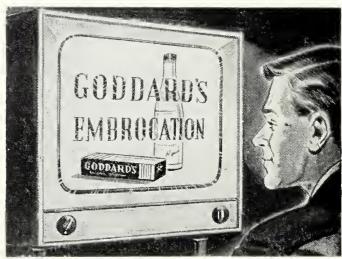
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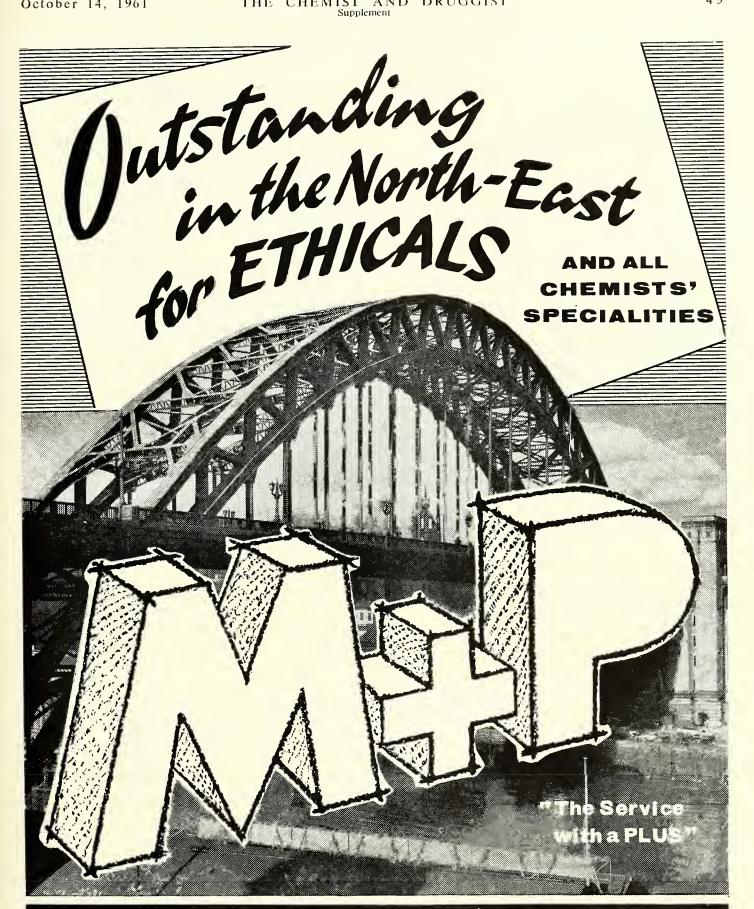
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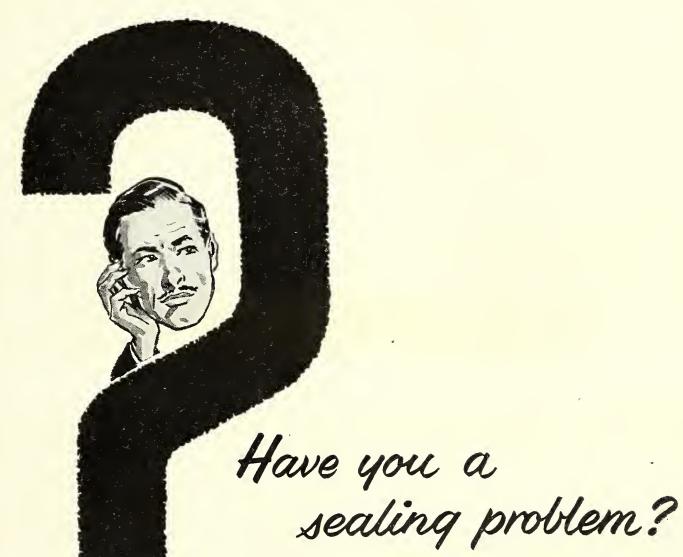
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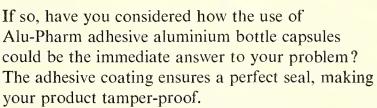
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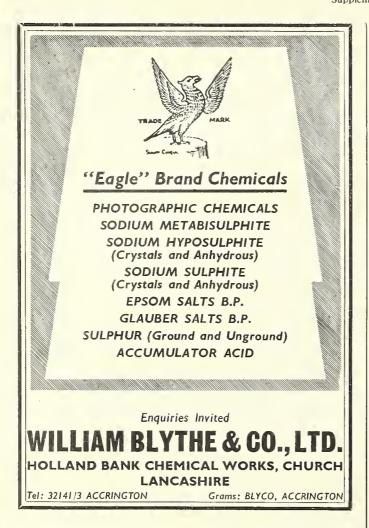
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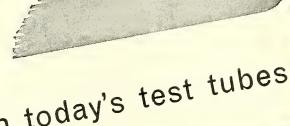
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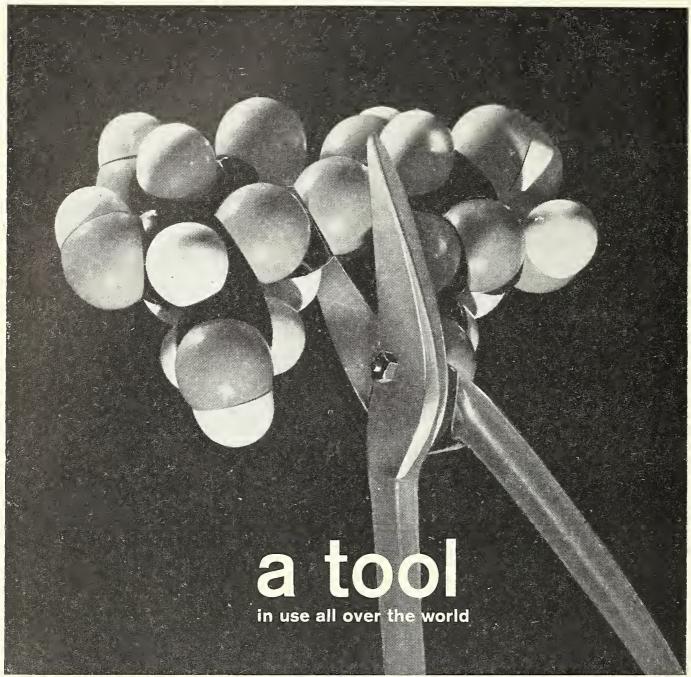
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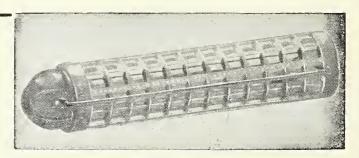
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